

# ARMY

JANUARY 1957

50¢





# ITALIAN REMOUNT STATION IS TRANSFORMED INTO TRAINING SITE BY ARMORED INFANTRY

At left is the Campomulo, former Italian Remount Station high in the Italian Alps, now operated by the 52d Armored Infantry Battalion as a winter training center. Above, an instructor checks the straps on the snowshoes of a novice. At left, Lieutenant Robert R. Rutledge, the camp's commanding officer, stands in the door of the operations center.



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# ARMY

JANUARY 1957  
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## The Current Scene

- Editorial. Why Did the Ball Bounce as It Did? ..... 16  
The High Cost of Survival. .... Lloyd H. Norman 18  
Troubled Middle East. .... 35  
The Two Colonels Were Firm. .... William H. Stoneman 41  
Armies Are Here to Stay. .... James D. Atkinson 49

## Men & Methods

- What Are We Doing to Our Commanders? ..... Col. Arthur S. Collins, Jr. 22  
Soldiers With A Double Skill. .... Maj. Gen. Hamilton H. Howze 30

## Organization and Management

- The Intangibles of War Potential. .. Brig. Gen. Donald Armstrong 27  
New Methods of Management. .... Col. Frank A. Kowalski 65

## Special Features

- Italian Remount Station Transformed into Training Site  
by Armored Infantry Battalion. .... Cover 2  
Army Sports in an Olympic Year. .... M/Sgt. Robert L. Groover 44  
The U. S. Army and the IGY. .... Col. Eldon A. Koerner 53  
The Flying Batteries. .... Fairfax Downey 60

## Departments

- The Month's Mail ..... 6 The Month's Cerebrations .. 68  
The Army's Month ..... 10 The Month's Books ..... 72  
The Month's Reading ..... 42 AUSA CP ..... 79

## THE MONTH'S COVER

**High Altitude high jump by 77th Special Service Forces.** In the Colorado Rockies, some 9,000-plus feet above sea level, a hundred members of the 77th SSF billow from Fairchild C-119 Boxcars in what was billed as the first mass high altitude parachute jump in history. U. S. Army photo by Fort Carson Signal Corps photo lab.

**ARMY** is a professional military magazine devoted to the dissemination of information and ideas relating to the military art and science representing the interests of the entire Army. **ARMY** magazine strives to—

Advance man's knowledge of warfare in the fields of strategy, tactics, logistics, operations, administration, weapons and weapons systems.

Advance man's knowledge and understanding of the soldier as an individual, as a member of a trained unit, and as a member of the whole Army; emphasizing leadership, esprit, loyalty, and a high sense of duty.

Disseminate knowledge of military history, especially articles that have application to current problems or foster tradition and create esprit.

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## THE MONTH'S MAIL

### "Combat Actions in Korea"

● Recent information has been received by the Office of the Chief of Military History indicating errors in Chapter 4, "Attack to the Rear," of *Combat Actions in Korea* [Combat Forces Press, 1954], which concerns Company C, 7th Cavalry regiment, in September 1950.

The naming of Lt. Larry Ogden [Capt. Lawrence J. Ogden, O-59372] as the platoon leader of the 2d Platoon is in error. Lieutenant Ogden commanded the 3d Platoon.

I wish to invite the attention of all readers of *Combat Actions in Korea* to the introduction to the book, which explains the purpose of the book, how it was prepared, its source material, and its limitations.

MAJ. GEN. R. W. STEPHENS  
Chief, Military History

Department of the Army  
Washington 25, D. C.

### Experience of a Headquarters Man

● Hats off to Captain Roger W. Little for "Headquarters Soldier" in the November issue. This article, so long overdue, should be required reading for every headquarters first sergeant and company commander. In some instances chiefs could also learn something about the men who help to make them.

While serving as a battalion personnel sergeant for a bit over two and a half years, I was blessed with fine battalion commanders and executive officers, and for the first year and a half with a good company commander. However, five different first sergeants all held the idea that people working at staff level were a group to be dealt with in a strong military manner and constantly watched. Besides trying to do an outstanding job in personnel (which I did, judging from all CMIs and letters of commendation from four different personnel officers), I was also the platoon sergeant for headquarters platoon and served as battalion adjutant in three NCO reviews. This was, and still is, my belief: that a good staff non-commissioned officer not only produces for his chief and staff section but also for his company. He is familiar with the missions of both and is willing to shoulder additional responsibilities. However, he needs, and must have, the understanding support of company and staff levels.

Eight months ago I was approached with an offer to broaden my military experience by moving into the battalion S2. My experience was broadened right

from the start. I absorbed knowledge and learned another function of a staff position. Then we Gyroed to Germany where I was caught between the chief and the boss, the straw boss, and the Old Man. They all had ideas that brought on plenty of conflict. So what with my duty assignment, my platoon, my company and my quarters, I am now awaiting an inter-battalion transfer to one of the four line companies. I have just returned from graduating sixth in 53 at the Seventh Army's Advanced Armor Crewman Course and still it is undecided which line unit will be gifted with an ex-staff noncommissioned officer. I'm willing to be a tanker for I believe it will give me the rounded experience which a top two-grader should have.

So when I say "hats off" to Captain Little, I know whereof I speak. His article and my career for the past three years run parallel in actual substance.

SFC ALAN D. RICE

H&S Co, 41st Tank Bn  
APO 35, New York City

### He's Not Kidding

● Who is kidding whom? Your November cover could be almost identical with that of *Amazing Stories* of the early thirties when "Buck Rogers in the Twenty-first Century" was introduced to the public. The article by Colonel Rigg in some respects makes stories by such modern science-fiction authors as Azimov, Pohl or Clarke seem like Victorian novels. This was my immediate sensation on reading of *Futurarmy*. Further reading made me realize that much considered and studied thought went into the creation of this article. Some elements of practicability are lacking in many of the concepts put forward by Colonel Rigg. I would like to comment on three of these.

The picture of a platoon or company commander calmly controlling his combat unit through the individual radio receiver in each helmet is fine, up to a point. What results when the enemy decides to make hash out of this type of communication by using a comparatively low-powered jamming rig on the line? This would happen only once or twice before our combat leader would again revert to arm-and-hand signals. A good sharpshooter is the only one who can jam arm-and-hand signals.

I have no argument with the premise that the Army has had to adapt itself to changing conditions, such as the trans-

formation of horse cavalry into an armored force, although I remember a very serious staff paper produced in 1947 which argued most logically and vehemently that there was still a place in the modern Army for the horse cavalry. Be that as it may, I feel Colonel Rigg is stretching an analogy much too thin when he suddenly assumes man will enjoy climbing on one of those flying platforms and go sailing merrily over hill and dale. The human race still possesses an extreme fear of height, and this fear, in combination with the sight of an efficient meatchopper whirling away just below the soles of his shoes is going to call for a far greater amount of guts than ever required before.

As for the individual rifleman's radar set, I gained the impression that this handy-dandy little weapon is to weigh less than five pounds, and sized accordingly. I also assume it is to be very simply constructed, although I have difficulty imagining such a thing as a *simple* radar. My present duty at TAA&GM Center is instructing radar electronics to students of the M-33 FCS. For every trained technician we place in the field, two others leave the field for more lucrative civilian employment. The *Futurarmy* will have this problem solved, of course: possibly one radar technician per rifle squad?

I think our author was too modest in his prognostications. Why didn't he furnish our *Futurarmy* dogface with anti-grav boots, a lightweight disintegrating ray or twin shoulder rockets. Who is kidding whom?

CAPT. ROBERT L. HOGAN

4010 Olympic Drive  
El Paso, Texas

### The Combat Awards System

● The more serious thinking we have of the kind exemplified by "Lt. Colonel Infantry" and Col. Ames [September issue], the greater the possibility of changing the awards system.

I think "Lt. Colonel Infantry" missed the point in my suggestion that the V device be appended to the LM awarded for gallantry in action. There are types of heroism which cannot be covered by current criteria—heroism enduring over a period which is not witnessed by American eyes.

I have in mind an OSS captain who was dropped into northern Italy alone, to block the Simplon Tunnel. When he was within a few miles of it he was betrayed, captured and tortured to death.

Since criteria for the DSC or even the Silver Star could not be met, he was awarded the Legion of Merit posthumously. Due to subsequent political pressure, the eyewitness stipulation was waived, one item of his performance was seized upon for citation, and the DSC authorized. This was gratifying, but it reflects no credit on the system. Some men got the LM for actions less heroic but similar in type. Those LMs should be distinguished from those given to staff and technical people for meritorious service.

I am aware that the *Marine Corps Manual* states that "The combat distinguishing device, consisting of the bronze block letter 'V,' shall be worn . . . by individuals who have been awarded the Legion of Merit . . . for acts or services involving direct participation in combat, and who have been authorized to do so." This would indicate that the award of the medal, for example, to a JA at division rear, would be a prostitution of combat awards, which all of us are "agin." I've heard of a staff officer who got the Silver Star for flying once over enemy lines in an observation plane, and of other instances when the DSC was authorized with very dubious justification. Nevertheless I believe both medals are highly respected.

I agree with "Lt. Colonel Infantry" that acts of heroism in combat are motivated by training, morale, and discipline. But he feels that the desire to earn a medal has nothing to do with motivation. I think it is a factor in heroic performance, and I see nothing reprehensible in it. A man on an athletic team plays for the glory of his alma mater, but he also wants to win his letter because it is a symbol of achievement and he knows it will help in his college and later career.

I present these clarifications because, as I stated in "Review the Combat Awards System," the system must be understood if it is to be properly implemented.

COLONEL ADVOCATE

#### *Air Force's Army*

• A recent article in an Ohio paper mentioned that *Air Force*, the "fly force" version of *ARMY*, states that it might be desirable to organize some light armored units for base defense and antisabotage work. Wouldn't this cause some difficulty in their job descriptions and terminology?

For example, would a tank driver be described as an Air Tanker, or would he be described as an Air Ground Armored Combat Specialist? Would a rifleman be air Infantry, shoulder-weapon operator, or what? Would their unit be allowed combat pay for time under rifle fire?

Seriously, what is wrong with closer cooperation between the Air Force and

its allies, the Army and Navy? It is nice to be exclusive, but expensive to be stupid about it. AF training stresses activities concerned with keeping aircraft in flight. Base defense is a vital activity, but aside from the APs, ground tactical training is scarce, and a force armed largely with carbines would stand little chance against trained sabotage units with light infantry weapons and recoilless weapons. Better they should look into some training for the ground pounders. After all, ground personnel are plentiful.

WO JOHN P. CONLON

52 Columbia St  
Newark, Ohio

#### *Hidden Flyer Unearthed*

• Captain Hopeful's "Unearth the Hidden Flyers," in the October issue, is very interesting. I am one of these hidden flyers, and would like to see his idea take root and grow.

I used the GI Bill to get my pilot training in 1945 (that makes me one of the thousands Captain Hopeful speaks of), and since then have built up as logged pilot's time a little over 300 hours, being checked out in many different types of aircraft. Now 1945 was eleven years ago, and I am now 33, which I assume, is the reason the Army has no interest in me as a pilot. I think it would be fairly safe to guess that most of these



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thousands of hidden flyers fall within the same age bracket as myself, so just how much good would it do to unearth us?

I still would like to see Captain Hopeful's idea take root and grow, for like thousands of others I love to fly more than anything else.

CWO ROBERT G. SNYDER

12th Ord Bn  
APO 189, New York City

### *Commander's Recognition*

• Please find enclosed my check to cover a one-year membership in the Association for SP2 Jose A. V. Dominguez, a member of my command, who was selected as "Soldier of the Month" for October.

This award is presented by me as a commander's recognition to the outstanding soldier selected on a monthly competitive basis among all troops with the hope that it will serve him as a twelve-month reminder that during such and such a month "I was selected as the outstanding soldier" followed by the question: "Do I still qualify?"

COL. MAX E. DROMMOND

Hq Kobe QM Depot  
APO 317, San Francisco

### *AUSA Seal Stamps*

• A potential publicity medium for AUSA has occurred to me. Because I believe in helping worthy organizations in their publicity when I can, I try to remember to affix seals from the DAV, the Tuberculosis Association, the Sister Kenny Foundation, and others, on my correspondence. The AUSA seal, printed on postage-stamp-size gum-backed paper would be an attractive, and I hope fairly inexpensive, way to wave the Association's flag a bit more.

Imagine a seal on each of thousands of envelopes, constantly reminding someone of AUSA. The seals could be mailed to members along with their membership cards each year, thus eliminating any additional postage.

LT. EDWARD D. PECKHAM

374 Wright Ave  
Richland, Wash.

### *Shooting Carrier Copters*

• I have been watching helicopters for four or five years, and while the trade journals are full of advertisements, I have not seen what I have been looking for. Suppose we are to take a position by vertical envelopment. We are to go forward in 32 H-21s. A few minutes over enemy ground we encounter six enemy copters. They are a copy of our Banana Boat and are what, for want of a better word, I call "pursuit" copters. They mount four quad .50 power turrets. Knowing what our copters are made of, they fire every fourth round a hollow-

point, magnesium tracer on a low powder charge. Upon impact the bullet mushrooms and the tracer ignites the magnesium. How many of our copters will survive to reach the objective depends on your imagination. I think it's time we get copters out of the straight transportation role and into the shooting and carrier business.

LT. RICHARD H. LOUTZENHISER

Drew QM Depot  
APO, 43, San Francisco

### *NG Enlisted Men*

• The articles by Bruce Jacobs on the National Guard are very good so far as they go. However, a book could be written on those subjects, and should be.

Most of the Regular criticism of the civilian components is sensible and meant to improve them. There still are a few people who are mentally still back in Fort Abraham Lincoln, Dakota Territory, and who think of part-time soldiers in terms of the social militia of times past.

While neither group of the Army's reserve forces puts a finish on its johns like the Prussian Guard, the enlisted soldiers of the Guard and Reserve are some way off from being just raw stuff. The officer material may not be suitable for immediate use on the General Staff, but I have heard many RA people being agreeably surprised with the ones they ran across.

There is a tale of a unit CO in frozen Chosin who wanted a list of EM qualified for promotion. He asked for service numbers after names, for otherwise "How the hell can I tell if they are RA, dumb draftees, or dash-blanked National Guards?" Could he have used performance as a yardstick? Or was he trying to keep men satisfied so they would re-up?

In 1941 I went on active duty as a member of the late but unlamented Regular Army Reserve, and as a recent graduate of three years' duty in Ordnance, when ordnance men were rare, I received a direct commission as Captain and was batted around from pillar to post for some time.

In 1951 I repeated, but as a member of a unit. I went to the same job I had been training at for five years, and was kept at it until the free tour of the Orient came due. Then came the pillar-to-post treatment as before, only for some time it felt different.

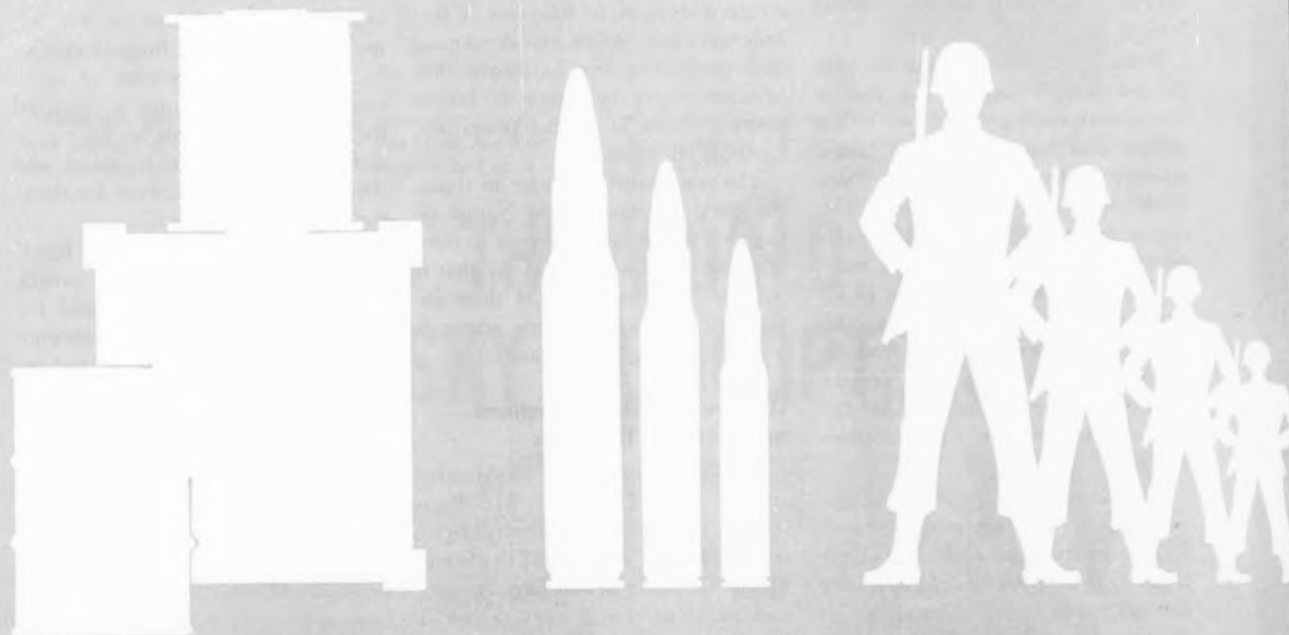
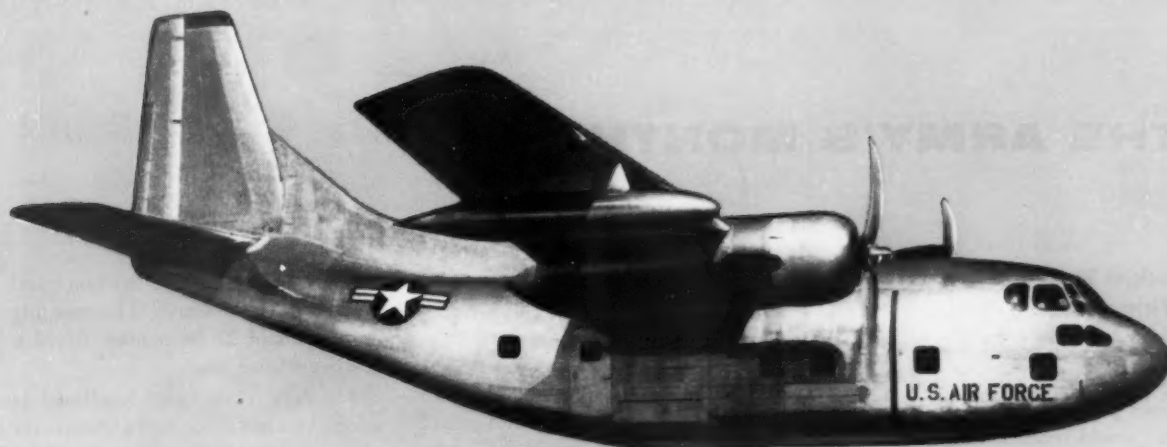
The second system has its faults, but it's a damned sight better for the individual, and it doesn't hurt the unit any. It feels better to be a small cog in an operating machine than it does to be a loose one in a box of odd spare parts.

I have been Regular, reservist, and dash-blanked NG, in order.

WO JOHN P. CONLON

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Newark, Ohio





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## THE ARMY'S MONTH

### Budget Problem: How to Reduce Without Losing Weight

Any expectation that the three-year-old "New Look" defense program might give way to a new "New Look" that would reflect changes in requirements and advances in weapons systems since 1954 seems largely dispelled by the recent directive on roles and missions (see below and page 16) and speculative reports on the defense budget for 1958.

What little is known about the 1958 defense budget suggests that the increase in spending—about two billion dollars—over last year will go almost totally into the programs all the "New Look" budgets have emphasized. This means that the Air Force will receive most of the money, possibly as much as three billions more than the 17 billions it has this year. The Navy expects to get a small increase and the Army another decrease. The Navy increase might be as much as 200 million dollars and the Army decrease about 100 million.

The decrease in the Army budget will probably be accompanied by a reduction in Army strength, now slightly more than a million. This will in part be justified by the assertion that the new weapons (Honest Johns, Cor-

porals, Redstones, etc.) now operational or becoming operational will give fewer men greater fire power capability than present forces possess. The precise determination of just how far this could go without cutting into muscle is a problem that should be undertaken only by the most capable of military technicians. Certainly if the Army is forced to operate under diminishing budgets it is wise to pursue the course it seems to be following of putting every cent it can into developing and producing the hardware that promises to give the Nation the largest possible return in combat power and logistical efficiency.

The one disturbing factor in this is the world situation. If the Nation today were called upon to honor its commitments (and who would say that it will not be?) the fallacy of these annual decreases in Army strength would become quickly manifest.

### The Press: Initial Reactions and Second Thoughts

At a press conference on Monday afternoon, 26 November, Mr. Reuben H. Robertson, Jr., Deputy Secretary of Defense, announced the Secretary of Defense's new rulings on roles and missions. Early evening news broadcasts generally described the rul-

ings as a "victory for the Air Force and a defeat for the Army." The morning newspapers of 27 November played it much the same way.

*The New York Times* headlined its story: WILSON RESTRICTS ARMY ON MISSILE AND AIR PROGRAM. The lead sentence of its story read: "The Army's aviation arm was sharply restricted today."

On the following day *The Washington Post* editorialized on the rulings. It thought the rulings on missiles "a sensible accommodation of interests." On Army aviation it expressed the idea that "an Army air force is of course a contradiction in terms, and there certainly is no excuse for direct competition in this area."

It then, in the "on the other hand" gambit beloved of editorial writers, noted that "the anomaly would not have arisen in the first place, however, if the Air Force had shown real interest in close tactical air support of the Army." It concluded that it is the "function" that is important and that "better means can be devised—whether by the Air Force or by the Army—to guarantee essential close and direct support for essential individual ground missions." Having thus gone full circle (and arriving where a great many other people were as long ago as 1951 or earlier) the *Post* dropped that particular subject.

By Thursday, Mark S. Watson of *The Baltimore Sun* was having some second thoughts and in a story appearing in the Friday morning *Sun*, under the headline ARMY GAINS SEEN IN NEW MISSILE RULE, he wrote: "Initial belief that this week's redivision of roles and missions among the armed services has been extremely injurious to Army projects is altered by closer examination of the clarification paper." He developed the idea that the Army had gained in surface-to-air missiles and that the rulings "by no means" cut the Army off from development of



Col. James D. Strong of The Engineer School awards the AUSA medal for scholastic excellence and leadership ability to 2d Lt. William M. Randolph during graduation exercises at Fort Belvoir, Va.



**OKINAWA RESCUE**—The 28-man crew of an Army tug was rescued by a Sikorsky H-19 of the U. S. Air Force's Air Rescue Service after the tug was wrecked on a reef

off Naha, Okinawa. The tug went aground aiding the Army coastal tanker in the background, also stranded on the reef.

## AROUND THE WORLD WITH SIKORSKY HELICOPTERS



**WORLD'S FASTEST**—A Marine Corps Sikorsky HR2S-1 has set a world record of 162.7 mph. Flown by Major Roy L. Anderson, left, and Robert Decker, Sikorsky test pilot, the HR2S also set new records carrying 13,250 lbs. to 7,000 feet (surpassing a Russian record), and 11,050 lbs. to over 12,000 feet.



**NEW RADAR HELICOPTER**—Under development for the Navy by Sikorsky Aircraft is this HR2S-1W helicopter with radome accommodating search radar gear. It can extend radar coverage beyond the range of shipboard radar or land-based radar picket aircraft.



**SIKORSKY AIRCRAFT**

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## AUSA IN THE NEWS



Mr. John Slezak, President of AUSA, presents a copy of the resolution adopted at the AUSA annual meeting in October to Secretary of the Army Wilber M. Brucker. The resolution cited Mr. Brucker's outstanding contributions to the U. S. Army.



We beam with Col. John Inskeep as 1st Lt. Dorothy A. Folmar signs a AUSA membership application at Camp Wolters, Texas. Col Inskeep is CO of the post and Lt. Folmar is his Assistant Special Services Officer.

surface-to-surface missiles reaching beyond 200 miles. He reached the latter conclusion by noting that the Wilson order had modified its denial of Army operational responsibilities for SSM's of plus 200-mile range by the words "at this time," and had said that the Army was not prohibited from making "limited feasibility studies in this area." Mr. Watson described these exceptions as an indication that the "flexibility of the Wilson clarification is regarded as particularly supple."

On Saturday morning Mr. John G. Norris of *The Washington Post* also had some second thoughts. It could be "argued with some logic that the Army did not do too badly under the circumstances," he wrote. Among the circumstances he mentioned was the discovery that "it is evident that in the IRBM, Army chiefs gave up a claim they never really expected to win."

Mr. Norris summed up his thinking by writing: "The Army has been forced to take another retreat from its one-time position as the dominant service." However he noted that "many military men are confident that the man with a rifle—perhaps an atomic rifle—may again prove itself (sic) a dominant factor in the Nation's defense."

Brig. Gen. Thomas R. Phillips of *The St. Louis Post-Dispatch* had no such second thoughts. Since the *Post-Dispatch* is an afternoon paper, he presumably had a little more time to prepare his initial story which appeared on the afternoon of 27 November. In it he developed the idea that the rulings disregarded advances in missile art and that the limitations were arbitrary and could prevent the development of necessary and effective weapons. He thought the "application of arbitrary distances to service functions is a highly undesirable way of settling them" and drew a parallel with the "Navy's success some 30 years ago in having an executive order issued that forbade the Army Air Force to fly more than 300 miles to sea."

On the question of airlift, which Mr. Wilson had ruled as being "adequate in the light of currently approved strategic concepts," General Phillips wrote: "The airlift provided by the Air Force for movement of

# NEW TURBOROTOR 'COPTER... *another Kaman First!*



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Kaman built the first  
turborotor helicopter  
flown anywhere.



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Kaman again pioneered in the helicopter gas turbine field with this HTK powered with twin turbines.



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# Irons in the Fire

## Jeep-Mounted Mine Detector

A jeep-mounted detector which automatically stops the vehicle when it locates a land mine has been developed by the Corps of Engineers' Research and Development Laboratories, Fort Belvoir, Va.

Capable of finding mines buried in and along roadways, the detector covers a path six feet wide directly in front of the jeep and can be moved to both sides of the vehicle with ease. Operating controls, located on the dashboard, can be manipulated by either the driver or his assistant.

A search coil, protected by an immersion-proof rubber-coated plywood box, is kept at a constant height above the ground by three skid-caster type wheels.

When the search coil passes over a mine, the vehicle is stopped instantly by the brake actuator, a spring-loaded hydraulically operated piston which disengages the clutch and sets the brakes.

## Lightweight Flamethrower

A one-shot lightweight flamethrower is now in final stages of development by the Chemical Corps. It is compact and comfortable to carry, may be fired easily and safely from any position, and is rugged



Light, "one-shot" flamethrower

and waterproof. The unit weighs 26.5 pounds when combat-loaded compared with the 72 pounds of the multiple-shot model. Because it is light and compact, it can be carried by a paratrooper on a drop.

## Global Information Service

Army Aviation Flight Information Division, under the Chief Signal Officer, is establishing a global flight information service for Army aviators. Flight information includes navigation aids, radio facilities, airway routing, radio proce-

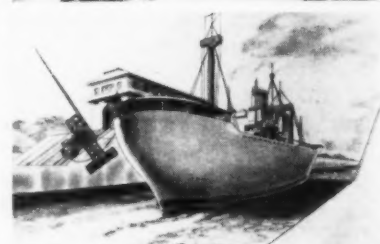
dures, radar information, danger-area data, instrument letdown and approach procedures. To insure high-quality flight information in critical world areas, field detachments are planned for Heidelberg, Tokyo, Fort Amador, and Fort Richardson. Previously Army aviators used flight information furnished by other Government agencies. This information, while reliable, was incomplete since it did not contain vital data concerning Army, National Guard and some civil airfields suitable for Army operations.

The Jeppesen Airway Manual, official document of Army Flight Information, supplemented by weekly revisions, is distributed directly to over 3,500 Army, National Guard and Army Reserve aviators.

The system for furnishing flight information to Army flyers was developed by Capt. Donald P. Dickinson, Army aviator and former Army Air Corps bomber pilot.

## New Engines for Panama Canal

A new type of towing machine, for pulling giant ships through the Panama Canal, has been ordered from R. G. LeTourneau, Inc., of Longview, Texas. The super-powerful "locomotives" are expected to make possible the first major changes in method of operating the Canal since it was first opened in 1914.



Top illustration shows forward locomotive towing ship through lock. Note rubber-tired fender is raised to accommodate high level of water at this stage. Below, locomotive is shown climbing 50 per cent incline at first lock, with cables slack. Vertical boom on locomotive is used to deposit initial lines aboard ship, formerly accomplished by rowboat.

Army forces will lift less than a division. This makes the concept of a highly mobile central reserve army ready to go anywhere fast nothing but words."

His interpretation of "currently approved strategic concepts" (possibly the only explanation of the phrase published anywhere) was that "the ground forces where the United States may have to operate will be provided by the nations involved, and the United States will supply air and naval forces. Such situations are South Korea with 20 divisions, Formosa with 24, South Viet Nam with 10 and Turkey with 20. But if the United States should become involved in the Near East to carry out the tripartite declaration on the armistice lines between Israel and the Arab states, there are no native forces available."

## General Officer Shifts

Lt. Gen. William K. Harrison, Jr., to Office of Chief of Staff . . . Maj. Gen. Edwin H. J. Carns to 1st Cavalry Division . . . Maj. Gen. Parmer Edwards to 2d AA Regional Command . . . Maj. Gen. James M. Epperly to Assistant The Surgeon General . . . Maj. Gen. Edward G. Farrand to 1st Armored Division . . . Maj. Gen. Paul L. Freeman, Jr. to Office of Secretary of Defense . . . Maj. Gen. Henry R. McKenzie to Chicago QM Market Center . . . Maj. Gen. Gilman C. Mudgett to Hq USARAL . . . Maj. Gen. Miller O. Perry to 1st Armored Division . . . Brig. Gen. James F. Ammerman to 9th Infantry Division . . . Brig. Gen. John A. Berry to Hq III Corps . . . Brig. Gen. William M. Breckinridge to 5th Infantry Division . . . Brig. Gen. Edward A. Brown, Jr. to Assistant Chief of Engineers . . . Brig. Gen. Bogardus S. Cairns to Army Aviation School . . . Brig. Gen. Francis A. Kreidel to Hq First Army . . . Brig. Gen. Olaf H. Kyster, Jr. to Hq USAFFE . . . Brig. Gen. Mervyn M. Magee to duty in Pentagon . . . Brig. Gen. Dale B. Ridgely to Brooke AMC . . . Brig. Gen. Theodore S. Riggs to Senior Adviser, ROK First Army . . . Brig. Gen. Thomas J. Sands to Hq USAFFE . . . Brig. Gen. David P. Schorr, Jr. to TPMGC . . . Brig. Gen. Tom V. Stayton to Hq ARAACOM . . . Brig. Gen. Walter K. Wilson, Jr. to Deputy Chief of Engineers . . . Col. Mary L. Milligan to Director, WAC.

## Retirements

Maj. Gen. Frank A. Allen, Jr. . . . Maj. Gen. Eugene M. Caffey . . . Maj. Gen. Boniface Campbell . . . Maj. Gen. Bryan L. Milburn . . . Maj. Gen. Howard L. Peckham . . . Maj. Gen. Harry Reichelderfer . . . Maj. Gen. John H. Stokes, Jr. . . . Brig. Gen. Harold W. Glatty . . . Brig. Gen. Theodore T. King.





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## THE ROLES AND MISSIONS DECISIONS

# Why Did the Ball Bounce as It Did?

**B**ECAUSE there are loopholes in the recent roles and missions decisions of the Secretary of Defense, it has been rather widely assumed that the Army suffered no more than a tactical setback. That is arguable, to be sure, but it shouldn't overshadow the serious effect the decisions on organic aviation, strategic and tactical airlift, and surface-to-surface missiles will have on the pace of the Army's modernization program.

The decision with respect to Army Aviation is most difficult to understand. Just why should there be an arbitrary restriction on the Army's development of weapons and equipment that fall in the category of aircraft? There is no such restriction on the Air Force and the Navy and they both, in consequence, operate aircraft that have overlapping capabilities.

The Navy's proud assertion that it has a strategic air capability is pertinent, since this capability is a direct result of the Navy's insistence that it must be allowed to develop whatever weapons and equipment it needs to accomplish its missions. The only way to eliminate the Navy's duplication of SAC's mission would be to deny it part of the means it insists it needs to accomplish its allotted missions. But since the Navy's success in maintaining the theory of self-sufficiency is no longer challenged, accommodation has been made to the realities and the extra added strategic air capability of modern aircraft carriers is counted as one of the Nation's military assets, rather than a costly duplication that is wasteful of public funds.

Unfortunately, the Army's case is just the reverse of this. During the early postwar years it did not argue that it must have all of the weapons and equipment it needed to fulfill its missions and it accepted certain arbitrary restrictions on its use of organic aircraft. In doing this it failed to insist that technological advances, then on the horizon, would so increase the velocity of war, both in time and space, as to make the task of the Army much more difficult and without in the least modifying the decisive nature of the Army's missions. These advances also offered the Army a solution to the

tactical and logistical problems that confronted it. What seems to be a natural law was operative here. Unless the Army could obtain the weapons and equipment made possible by the new technology it could not successfully meet the challenges imposed by those same advances.

Fortunately it had leaders who foresaw this. They moved forward imaginatively and with great vigor, conscious always that the leg chains of long imposed arbitrary restrictions were hobbles on their freedom of action. The odd part of it is that they were not moving into areas that would duplicate the efforts of the Air Force or Navy, but into a vacuum, an area of no interest to either of the other services. For the fact is that the Air Force is without any interest in the kind of aircraft required by the Army for battlefield operations.

The aircraft the Army requires to meet the challenges of the atomic battlefield are those that have very short take-off and landing characteristics. These are aircraft that can serve the soldier in the environment of the ground battlefield—aircraft as alien to concrete runways as B-52's and F-104's are alien to the mountains, jungles and woods which are the soldier's habitat.

It may be that the 5,000-pound empty payload limitation on fixed-wing aircraft and 20,000-pound limitation on rotary-winged aircraft will eventually be lifted. But in the meantime there is danger of a hiatus in research and development. This is serious. To mark time is folly since it retards the orderly development by the Army and industry of equipment that will be needed in the early 1960's. This is not what used to be called a "stretch-out" in production; it is the halting in place, or worse, of the search for vital answers. And as someone recently said, the nature of the threat that faces us is such that if we do not progress, we die.

**U**NREALITY exists, too, in the imposition of an arbitrary operating limit to Army aircraft by defining the combat zone of a battlefield as 100 miles forward of and 100 miles back of "the general line of contact between the U. S. and enemy ground

## THE DEFENSE DEPARTMENT'S RULINGS ON ROLES AND MISSIONS

**Army Aviation**, instead of receiving a new charter that would free it, remains arbitrarily hobbled.

**Tactical and strategic airlift** were ruled "adequate in the light of currently approved strategic concepts."

**Land-based surface-to-air missile systems** used for point defense up to a horizontal range of 200 nautical miles were made an Army respon-

sibility. This includes Talos as well as the several Nike missiles.

**Army surface-to-surface missile systems** for support of ground combat operations were limited to a range of 200 miles.

**Operational employment of land-based intermediate range ballistic missile (IRBM) systems** was given the Air Force.

forces." This is obviously based on linear concepts of a battlefield, as experienced in Europe in the Second World War and in Korea in 1950-53. From what point would be measured the 100 miles forward and backward on the battlefield of tomorrow where semi-independent friendly and enemy combat groups may be very mixed up over areas of great depth? But it is fallacious even when applied to the Korean conflict. All of South Korea for a good part of that conflict was within the combat zone. And yet the distance from Pusan north to the lines was as much as 250 miles. The Army was operating throughout this entire zone and to have denied it the use of aircraft throughout would have been highly unrealistic. While it is true that the new roles and missions memorandum stipulates that such restrictions as this one are applicable only "as guidance in peacetime," such a limitation on the use of Army aircraft in training and maneuvers can seriously compromise the Army at a time when it is engaged in adjusting to new, almost revolutionary, tactical and logistical organizations.

**T**HE biggest puzzle in the whole memorandum is the statement that tactical and strategic airlift is "adequate in the light of currently approved strategic concepts." Since this statement cannot be reconciled with other informed opinions on the subject it will remain an enigma until the phrase "currently approved strategic concepts" is clarified.

**T**HE decision limiting the range of Army surface-to-surface missiles is as disappointing and as crucial to the orderly development of the Army's full potentialities as the decision on airlift. The concept of widely dispersed highly mobile units operating beyond mutually supporting ranges and far beyond the reach of conventional artillery or short-ranged missiles and rockets like the Honest John and Corporal establishes the Army's need for missiles beyond the 200-mile range. Korea, again, is a case in point,

remembering the 250 miles from Pusan to the combat lines. Since such missile installations are, in the present state of the art, relatively complex and cumbersome, they must of necessity be placed in relatively secure areas, which means far back of the zone of action. The distance a missile is thrown in support of units engaged with the enemy is not the proper criterion for determining whether it should be organic to the Army, the Air Force, or the Navy. Rather it should be asked for what purpose is the missile thrown? It is likely that all three services will have a need for intermediate range surface-to-surface missiles. Furthermore it is logical that the service requiring such a missile will be better able to control and use it if the missile is organic to it. Here again combat effectiveness, efficiency and economy will best be served by following the Navy concept of "to each his own."

**S**ECRETARY Wilson indicated that some of these decisions are subject to change. That is good. But this should not lead us to ignore the fact that the decisions, as they stand, are hard to reconcile with known facts at a most crucial point in this dangerous decade.

Those who believe that the U. S. Army today must have highly-mobile, superbly trained and led combat ready units, armed with the best weapons we know how to make and backed up with the most modern and effective logistical supporting force that can be designed, should think deeply on why the Army did not do better than it did in this adjustment of roles and missions. Bland alibis to the effect that this is but another demonstration of the ability of air power to oversell itself won't do. The other side of that coin is that the Army's case must have been undersold. This, of course, only repeats the question and evades a hard nugget of fact that must be faced: in the judgment of the Secretary of Defense these decisions were in the best interests of the nation.

# The High Cost OF SURVIVAL

LLOYD H. NORMAN

A cold-blooded appraisal of strategic and fiscal realities leads to the conclusion that the over-building of strategic air-atomic power by 500 per cent cannot be justified

IT'S not the high cost of living but the high cost of killing that should be worrying the American taxpayer this year. Or, more realistically—the high cost of survival.

The mounting cost of weapons has become the BIG FACT not only in its impact upon the U. S. economy and future tax bills but upon the current military planning and budget making for 1956-1960 and for the long range projections to the 1970s.

Here's a random list of weapons prices for right now and the near future:

ARMY	
M48 Patton tank	\$133,280
280mm cannon	437,027
Cal. 50 cartridge	.325
106mm. recoilless rifle	4,057
Garand rifle	94.30
Nike missile	30,000
NAVY	
Forrestal class carrier	\$200,000,000*
Atomic submarine	32,700,000*
A3D bomber	1,874,000
F8U fighter	769,000
Talos missile	200,000
Regulus I missile	210,000
Destroyer	16,000,000
Frigate	30,000,000
Missile ship	100,000,000*
AIR FORCE	
B-52 bomber	\$8,000,000
B-47 bomber	1,900,000
B-66 bomber	1,900,000
F-104 bantam fighter	690,000
F-102 jet interceptor	1,000,000
F-86	190,000

These samples show the trend in the cost of killing the enemy is soaring into a frightening economic stratosphere despite the increasing availability of mass destruction weapons.

The atomic bomb once looked like the big economy size package that promised to cut the unit cost of destruction. But the delivery systems have almost priced themselves out of the market.

And that's exactly what is happening. The delivery systems are getting so expensive that the budget makers shake their heads and complain, "If we are going to stay solvent, we just can't buy all these multi-million dollar gadgets the military say they need."

Wherever you inquire in the Pentagon about 1956-60 plans or the upcoming budget, you are struck by the ever-

\*Without weapons or nuclear-powered engines.

Lloyd H. Norman has been a Chicago Tribune reporter since 1938, and its Pentagon correspondent since the end of World War II. During that war he served in the Navy, in both the Atlantic and Pacific theaters. This is his fourth appearance in this magazine. The others were "Operation Future" (October and December 1950), "The New Look Strategy" (February 1947), and "\$13 Billion Scarecrow" (February 1956).

ARMY



persistent problem of rising costs of the transition from the weapons of the past to the futuristic weapons of nuclear-missile age warfare.

When you impose a spending ceiling on the defense budget of ten per cent of gross national product, these mounting weapons costs become the decisive factor in military planning and budget making.

The word has gotten around that defense spending will be limited by this unspoken ceiling to about 38 billion dollars for fiscal year 1958. Certainly, it will not be permitted to go beyond 40 billion dollars a year. The national policy makers would like it to stay below 38 billion dollars and bring it down to 35 billion dollars if possible. That's the only way they can balance the federal budget and carry out the promise of tax cuts.

Thus, the economic big fact of mounting weapons costs and the defense budget ceiling will determine strategic plans for 1956-60 and later—not actual military requirements or world conditions unless someone starts a war that the policy makers cannot avoid.

Somehow the military planners have to cut corners, trim the fat or sacrifice desired strength to keep within the budget ceiling. This is obvious from the total preliminary budget estimates for fiscal 1958 which amount to 48½ billion dollars. Defense Secretary Charles E. Wilson has made it clear that these estimates are unrealistic—which means that they will have to be slashed by 10½ billion dollars.

That painful cutting process has been completed without bloodshed, to be sure, but with much heated discussion.

The conflict runs deeper than such issues as Nike *versus* Talos; aviation for the Army *versus* Air Force tactical support; long range missiles assignments; atomic weapons allotments; or aircraft carriers *versus* strategic bombers.

Basic military philosophies, long range policies, and global strategies are involved. The transition in weapons has generated an anguished struggle for the perpetuation of traditional ideas and methods that are being challenged by the realities of the new weapons.

This is a time when searching fundamental questions are being asked. And the answers are not spelled out in the doctrine manuals, or in Clausewitz, Douhet or Mahan.

What kind and how much military strength do we need—or can we afford? How much deterrence and what kinds? Can we rely solely upon atomic-airpower deterrence? Has it been effective in keeping Soviet Russia from going to war? Will it keep Soviet communism from spreading or making further gains without war? Are we oversold on atomic airpower and undersold on other deterrents?

There are a lot of other questions just as difficult to answer. Unfortunately, they have been answered in the past by traditional methods, by reasoning that was not always based on scientific objectivity, or by makeshift politically acceptable compromises.

A hodgepodge military strategy and program patched up from outmoded thinking, untested theories, unproved assumptions and doctrine manual maxims may have sufficed when Soviet Russia was a fifth-rate power.

It worked in World War II. But it didn't work in Korea, Indochina or the Middle East. Communism may have been stopped at the 38th parallel but it has moved forward elsewhere and is continuing its march. Russia is using new methods of warfare that are not halted or deterred by tacit

threat of our atomic airpower, by our fast-moving naval task forces or our ground forces.

The amassing of military deterrents at tremendous cost has sometimes misled policy makers into relying upon military strength to offer cheap solutions of their other problems.

In the atomic age, the threat or application of military force has lost much of its old-time effectiveness. The problem today is national survival, not stopping or pushing back communism. It is how to prevent war, how to deter Soviet Russia and Red China from going to war, how to keep smaller nations from being swallowed up in communist-inspired local wars.

ONE of the most cogent and penetrating analyses of this country's military mission for today and the future was made by General Maxwell D. Taylor in a little noticed statement to the Senate Armed Services Committee subcommittee investigating airpower.

The Army Chief raised key questions that must be answered. Wrapped up in what he said were deeply significant meanings for our political leaders who are faced by communism's threat, by the inescapable rising costs of survival, and the pressing need for a new approach to the realities of national security.

General Taylor said:

We take it as our primary mission, as we view the destructiveness of general nuclear war, that the army, as a part of the armed forces, has as its primary mission the prevention of that war. I stress the point because sometimes it seems surprising when I say that the role of our armed forces is not to win the war, it is to keep the war from ever occurring.

So I set the deterrence of general war as our primary objective, recognizing that we are only a part of the team, all of which must make a corresponding contribution [italics supplied].

However, as we estimate the probable effects of mutual deterrence, it seems that great general war, as a deliberate act, becomes less likely, and that the second danger of piecemeal erosion becomes increasingly likely.

Hence, we say that right after our mission of deterring general war we must deter the small war, or, if the small war breaks out, we must suppress it promptly, because that small war may easily lead to the great war which we are all trying to avoid.

And then, finally, after assuring our ability to deter war or to win the little one, then we say we should consider the residual requirements for fighting the big war [italics supplied]. I make this distinction because, as we analyze our military needs, we are struck with the fact that many of our most costly defense requirements fall into the fourth category. In other words, those things we would need in case our deterrents fail.

What General Taylor is saying is that the U. S. needs enough atomic airpower deterrence to prevent a total atomic war—but not to fight and win that war. He emphasizes that to fight the big war would require the U. S. to accumulate a vast stockpile of the most costly weapons.

The implication of this profoundly important statement is that the U. S. should not attempt to bankrupt its economy by buying all the atomic bombers, ICBM missiles, and nuclear weapons needed to win the big war. Just enough to convince Soviet Russia that such a war would not be profitable to her and would end in destroying her.

Now, Air Force leaders and their strategists have made it clear that they believe the only effective deterrent to keep Soviet Russia from going to war is atomic airpower



The expensive KC-135 jet tanker underlines the question of whether it is wise to overspend on strategic airpower and at the expense of military strength that is capable of deterring and winning limited wars and piecemeal erosion

in sufficient massive strength to win a total war. This means they believe that Soviet Russia would not be deterred by a token display of atomic airpower or by enough bombers and nuclear bombs to destroy say fifty per cent of Soviet targets, or seventy-five per cent.

The Air Force strategy requires that it have enough weapons of atomic airpower not only to guarantee at all times the complete destruction of 100 per cent of Soviet targets. But, as one top Air Force leader has said in private, "we now have enough atomic bombs and we can deliver them to knock out Soviet targets at least five times."

General Taylor appears to be questioning this policy of the 500 per cent guarantee. As Soviet air defenses improve and Soviet atomic missiles and long range jet bombers make their appearance, the Air Force inevitably will have to ask for greater quantities of atomic bombers and missiles to reestablish the 5 to 1 ratio.

These new atomic missiles and bombers run up the billion dollar zeros on the adding machine at an alarming rate. Defense budget officials hesitate to estimate what one intercontinental missile will cost. Some say at least 10 million dollars each at the start. Others predict the cost will drop with mass production to one million dollars each.

The Air Force has already scheduled the purchase of some 600 B-52 jet bombers, with an initial cost of 8 million dollars each. And presumably it will need about 300 KC-135 jet tankers at about the same cost. Without any complicated computation, the cost will run into many billions. Add to that the "mass production" of big ocean-spanning rockets, and it is easy to understand why General Taylor emphasizes that these "most costly defense requirements" be evaluated carefully as to their importance in deterring a general war, not winning it.

What General Taylor appears to be suggesting is that, with defense funds limited, the Air Force should not be permitted to drain the treasury to buy all the weapons it needs for fighting a total war until the other military services have acquired their needs.

General Taylor would set up four classes of priority for fulfilling defense requirements out of a limited defense budget:

(1) Deterrents to prevent a general nuclear war (mostly atomic airpower but including ground and sea forces).

(2) Deterrents to prevent a small or local war.

(3) Military forces to suppress and win a small war if it breaks out.

(4) The *residual* requirements for fighting the big nuclear war.

He implies that a condition of mutual nuclear deterrence will soon exist, making a big atomic war less likely. When each side can destroy the other, he says, "we are approaching that era which we often call a period of mutual deterrence."

Following General Taylor's reasoning, the problem of "piecemeal erosion" becomes increasingly important. Thus, he would give greater stress in the future to Priorities Nos. 2 and 3 because No. 1 has apparently been met adequately and has resulted in mutual deterrence.

Interpreting General Taylor's ideas in practical terms, that would mean the defense budget in the future should provide more funds for the Army's atomic age requirements for atomic weapons, rockets, missiles, aviation, lightweight equipment and other needs for mobile ground forces that can be used to deter or suppress local wars.

It would also mean financial support for the Navy's fast moving transports, carrier striking forces, and for the Marine Corps. It would also mean more funds for Air Force transports to move Army battle groups to combat or trouble areas.

General Taylor backs up his argument for emphasis on adequate funding of the Army's needs by calling attention to the "increased cost of our weapons and the cost of modernization." In his testimony before the Senate subcommittee, he said that the only alternative to mounting defense budgets is "either to reduce our forces and modernize, or to delay our modernization, retaining the present force structure."

"The cost of modernization," he said, "hits the other services just as it does the Army. Actually, perhaps even more so because of the high unit cost of some of the equipment, air equipment for example."

Between the lines of General Taylor's statement was

the hint that the place to cut costs, in order to modernize our military forces, is in the Air Force where the weapons are the most expensive and where cutbacks would least impair the armed forces' ability to carry out their primary mission of deterrence. He would cut into the Air Force's claims for the "residual requirements" or the fourth class priority for weapons to fight a total war.

The key question spotlighted by General Taylor's meaningful remarks is: How much atomic airpower is enough to deter a general war?

Do we need five times the atomic airpower to lay waste all Soviet Russia and Red China? Or two times? Or to be sure, ten times? What weight should be given to other deterrents? What dangers lurk in the preoccupation with atomic airpower deterrents to the extent that other deterrents, military and non-military, are neglected?

What General Taylor is proposing is a frank and clear-eyed reappraisal of our military thinking. Ready-made answers and catch phrases should be reexamined to make sure they make real sense.

How much atomic airpower do we actually need? The Strategic Air Command works out its theoretical requirements by war games on paper. What is the state of Soviet air defenses? How many of our B-36s, B-47s and B-52s could get through and hit their targets with a high degree of reliability? How many of our strategic bombers would be knocked out in the first few hours of a Soviet surprise attack on our bomber bases? Would we have to hit the targets more than once with our big H-bombs? How many Soviet targets would we have to hit and which ones? Would the Kremlin be convinced that war does not pay if we could hit ten Soviet cities, 20, 50, 70 or every last factory town, airfield and railroad yard?

It would appear reasonable that such "war gaming" should be reviewed or even conducted on a separate and impartial basis by a defense agency such as the weapons systems evaluation group. And the war games should be conducted not only objectively with scientific methods but should embrace the deterrent capabilities of all the military services, not just SAC. National policies are also involved and the National Security Council would have to examine with great care the fundamental objectives of the "war games." Some agency higher than SAC or the air staff must decide how much air deterrence insurance the U. S. has to buy.

**I**n assessing our deterrent capabilities and requirements, the policy makers must consider whether the atomic airpower requirements for effective deterrence are not inflated. The Eberstadt committee of the old Hoover commission stressed that our intelligence estimates of enemy capabilities were often exaggerated by the "big eyes" of overambitious military services. Admiral Arthur W. Radford, chairman of the Joint Chiefs of Staff, recently told the Senate Armed Services Committee subcommittee on airpower:

"There is good reason to believe that we normally overestimate Communist capabilities in almost every respect. That statement I base on my own experiences in war. . . . I think that we are in a dangerous position vis-à-vis the Communists in that respect today, because there has been an almost hysterical assumption of great capabilities on the part of the Communists, some of which, in my opinion, actually do not exist."

Admiral Radford also said:

"We are moving with our atomic weapons capability toward more powerful deterrents with smaller forces. In other words, a very small force can have a very effective deterrent power, and I think we have to explain that to our allies."

He also underscored the powerful deterrent effect of military strength other than our ability to retaliate with overwhelming devastation. He recalled that "if we had had one battalion, or even a company, on the 38th parallel in Korea flying the American flag, and if it were known to be there as a combatant unit on the 25th of June, 1950, I don't think the Communists would have attacked South Korea."

It should be clear from what Admiral Radford and General Taylor have asserted that:

(1) The estimates of the atomic airpower we need should be based realistically upon hard-headed appraisals of our capabilities and Soviet capabilities.

(2) These estimates should be limited to visible and convincing military strength that would deter Soviet Russia. Otherwise the estimates would tend to become exaggerated.

(3) Other military forces should be considered an integral part of the deterrence. Example: the visible presence of U. S. Army troops.

(4) A very small force can have very effective deterrent power. This applies not only to ground and naval forces but to atomic airpower, too.

**N**OW to the brass tacks. It is evident that the defense budget for fiscal 1958 will set a spending limit of about 38 billion dollars and a manpower ceiling of about 2,600,000 men. The best informed guess from the budget makers forecasts an increase in defense spending of one million dollars and a cut of 200,000 in military manpower.

The trend in later years will be a continuing effort to hold the line at 38 billion dollars, possibly to cut it to 35 billion dollars. The mounting cost of the big missiles and other new weapons will force further cuts in manpower.

The 2,600,000 manpower total may be divided roughly as follows: Army 900,000, Air Force 900,000, and Navy (including Marines) 800,000. These estimates could be altered by as much as ten per cent up or down.

The outlook appears to be further cuts in the Army in later years unless the basic military policy is thoroughly overhauled in a realistic reappraisal of our deterrent requirements. If the Air Force's thinking is pursued relentlessly, the Army may be cut to 500,000 men.

As one Air Force planner put it: "Can you imagine where we would need an Army of more than 500,000 men in any future atomic war?" The primary need for the Army, he said, would be in the U. S. to control the mobs and frantic hysteria in the cities shattered and burned by Soviet H-bombs. And he suggested that the National Guard probably could take care of restoring law and order—in the United States. Later, after SAC knocks out Soviet Russia and the atomic embers cool, a few U. S. Army divisions could restore order over there.

It's obvious that at this critical stage in the transition to atomic age weapons the nation's problems of survival cannot be solved by any such oversimplified formula. The problem must be reexamined and restudied by cool heads and bold spirits; by men who have the courage and scientific objectivity to ask, "Will this really do?"





# WHAT ARE WE DOING TO OUR COMMANDERS?

COLONEL ARTHUR S. COLLINS, JR.

"TODAY there is a tendency, whose cause should be sought, on the part of superiors to infringe on the authority of inferiors. This is general." So wrote Ardant du Picq, colonel of the 10th Regiment of Infantry of the Line a few years before he died of wounds received at Metz in August 1870. Is the history of the French Army of the 1860s being repeated in the U. S. Army in the 1950s?

We often hear that a command assignment is the most wonderful assignment in the Army. And we are told that we should all seek such an assignment.

If the first statement is true, then it would not be necessary to tell us

that we *should* seek a command assignment. We all would. Unfortunately, we aren't doing so and the reasons why should be a cause for concern to all of us. This article is intended to highlight some of the problems that make a command assignment a dubious honor. The suggestions that will be made to correct certain of these shortcomings will not be new, but they bear repeating because as a wearer of the green tab, I say we are losing ground.

## Ten years after— decade of deterioration

First, a little background. In 1946, the regiment which I commanded was disbanded, and it was not until 1955 that I was again assigned to command a unit. Before 1946, I had eight wonderful years in command assignments—from platoon to regiment. In the succeeding years it was my good fortune to have a pleasant and interesting series of assignments to higher-echelon staffs and schools. From time to time I read of the troubles of the Army, and heard of it in discussions with other officers. You don't experience these things at higher headquarters and schools so I wasn't prepared for the shock I received when, in 1955, I once again assumed command of a regiment. It might be well to enumerate some of

the changes that have taken place in the Army in these years, since they pose a threat to retaining a high-caliber Army in the future. Not all of us are aware of these changes. Unless my experience was an isolated one (and I think it was not), something should be done on these points.

The first and most startling change is the role of the commander, and I will concern myself mainly with that subject. We always extol the commander. We know how difficult it is to be a good one and how many things can go wrong. We know that through the Career Management program the Army is trying to insure that officers get a solid balance between command and staff experience. This is good, and although command is always hazardous to one's future and ever a challenge, a command assignment adds a great deal of pleasure and attraction (it is said) to the military career. This is no longer true. The hazard is still there (more than ever) but the pleasure has been taken away. Today, a commander feels that he is on a treadmill, the speed of which is controlled by outside forces; unfortunately he can't keep up and can't get off. The feeling of accomplishment is just not there. Why? Let's take a look!

The Command Maintenance In-

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spection is conducted about every six months by a group operating under the division staff. As it is conducted today it is, in my opinion, a detriment to the development of a good commander.

For the five months and two weeks before the inspection, commanders tend to be lax in their day-to-day responsibility for vehicles, ammunition, supply and other administrative matters. About two weeks before the inspection, which is scheduled months in advance, every company and battalion commander starts working madly. They work night and day. So do their men. If you let them, they will adjust their whole training schedule to the CMI. This results in no training for about two weeks while they do all the things that should have been done daily in the past six months. Rather than a true indicator of the state of a unit, the CMI gives a very false picture as to the conditions that actually exist. Even more serious, the CMI team, by default, has taken over certain of the commander's responsibilities. It has created a false impression of the daily chores of a commander in the minds of the company and battalion commanders we are now developing.

#### **Statistics run riot, and quotas pile on quotas**

A few of our higher commanders have become so statistics-conscious that they have called subordinate commanders whose units had DRs (Delinquency Reports) for AWOL or other causes, and have said, in effect: "There will be no more in your unit." Fortunately, not many commanders do this, but the few who do have an effect on a tremendous number of officers and men. This is a true test of the mettle of a commander. Does he falsify his records or stoop to some illegal procedure to cover up when such incidents occur, as they inevitably will? Unfortunately, this practice has compromised the integrity and spoiled the outlook of many promising officers.

Progress has been made in this, I'm happy to say. I have seen a letter from an army commander advising his subordinate commanders not to use this superficial method of evaluating the efficiency of a unit.

Then there is Old Man Percentage himself. We have too many "percentage" targets in such things as bond drives, soldier deposits and weapons qualifications. All unit commanders

usually experience quite a bit of pressure on "voluntary contributions" for such things. Seldom does a month go by that a soldier isn't nicked for some worthy cause and his contributions are all out of proportion to his income. The pressure is usually subtle, such as the posting of "fever charts" or box scores comparing the contributions of various units. This is not a great problem, but it is an example of one of the innumerable pressures to which the commander is subjected.

This statistical numbers racket can plague you in a hundred different ways—on the rifle range, for instance. Caliber .30 pencils are not new to the Army, but since we started emphasizing statistics there are just more of them. Higher headquarters will announce that a certain percentage must



qualify on the rifle range and a prize will be given to the unit with the highest percentage. In spite of a warning to my company commanders that I was not interested in paper scores, we had a phenomenal season. I checked these scores by having the best shots in each company compete with one another—with the pit detail from regiment. Several "experts" boloed, and the faces of some unit commanders were quite red.

This posting of box scores is vicious because it is an invidious comparison. Some poor guy who is really breaking his back to be a good commander (and

he may be one) and who always finds himself low man on the box score, has to have firm moral qualities not to compromise himself or those under him. And if the comparisons are always against him, he has to be a truly Christian gentleman not to become a trifle envious of his more "fortunate" fellow commanders and not to wish an accident or delinquency report would happen to them. This is a very dangerous thing which I think has been overlooked.

Blood brother to the statistics and the percentage is the quota; and the most dangerous of all is the enlistment quota. Here is an extract from a "368 board" on a man in my outfit:

"He failed to pass a total of four or five grades and finally quit school at the age of eighteen years. At this time he was rejected by the Marines because of 'bad eyes' and by the Air Force for insufficient education. Although classified IV-F by the draft board because of his nervous system, he requested a repeat physical examination which he passed. He subsequently enlisted in the Regular Army."

I am sure this man helped fill someone's enlistment quota. Possibly the recruiter got a letter of commendation for oversubscribing that month. But I don't have to tell you about the time and energy devoted to the impossible task of making this man a soldier.

#### **Overwhelmed by paper and bound in an administrative strait-jacket**

Although the Army has completed Operation Paper Chase, I doubt that anyone has ever truly analyzed the burden imposed on company commanders by paperwork. The supply accounting system is so complex that a company officer with an inexperienced or an incompetent supply sergeant is at the mercy of the bookkeepers. If you raised your eyebrows on that "inexperienced supply sergeant," just check how often these men are reassigned.

Any company commander can tell you about the numerous requisitions a year old that have been cancelled by higher echelons with directions to submit new requisitions which take endless man-hours to prepare. Higher staffs contend this is necessary because the units have requisitioned enough to equip three field armies. If this is so and everyone is in error, it is either due to a faulty system or poor command supervision. If the latter is the reason then the medicine should be dif-

ferent. The system of cancellation protects the inefficient.

How about the endless hours spent filling out Accident Report (Form 285)? Nothing is left to the commander's judgment, particularly to decide whether or not one of these forms should be filled out. A man slips in the snow and breaks a leg; a man indulges in horseplay in barracks and falls downstairs, breaking an arm; a drunken soldier gets into an automobile accident—no matter what the cause, a form must be made out. This is all exclusive of disciplinary action. Freedom of decision? Use of judgment by the commander? The only place he can exercise it is in paragraph 8b of the form.

Administration as it pertains to courts and boards consumes a tremendous amount of an officer's time. Very few above the regimental level realize the frequency of boards, courts and investigations.

There was a time when the bedrock of company administration was found in the experienced first sergeant and supply sergeant. Where they have gone I don't know, but they are hard to find. The men who fill these positions now are nomads. This places an unusually heavy burden on an experienced company commander and just about swamps the inexperienced. Without this firm anchor the small-unit commander is caught between the surge of the G3 and commanders at every level demanding perfection in training, and the relentless pressure of all other administrative sections directing, in the name of those same commanders, "personal command supervision" of a host of essential administrative details. It is here that the pressures on the small-unit commanders become unreasonable.

From what has been said about administration you can sense that the load is heavy. Now to training.

#### **Training schedule of plus 365 days a year**

Analyzing the training program which had been outlined for my unit, I found that more training was required than there were days in the year in which to accomplish it. Each echelon added only those items that they considered essential, but no one seems to have analyzed the over-all impact at company and similar unit level.

My regiment was scheduled to take battalion tests in June. These tests



were the culmination of a year's training and should have given positive indication of the state of training in a unit. In the three months immediately preceding the tests, the following training was scheduled:

- (1) Platoon and company tests.
- (2) Tank-infantry training, to include a problem in which a battalion of tanks and two battalions of infantry operate together. (In my book that is graduation exercises—for combat.)
- (3) Conduct of marksmanship season, to include regimental and division competition.
- (4) Regimental FTX, taking about five days.
- (5) Air-transportability training.
- (6) Two CPXs, one in which regimental headquarters participates and one in which all commands down to include company participate.
- (7) Command maintenance inspection of all units.
- (8) Complete all training and preparation for battalion tests in this period.

Granted certain of these phases are progressive, but to perform everything called for by the schedule would be a herculean feat in twice that time. Thus there was slipshod performance. The pride of accomplishment that comes with a job well done was denied. This is not beneficial for the morale of the officers or men and is a major criticism. When I add that we received seventy new officers—almost every one a lieutenant fresh from Benning—and more than fifteen hundred men during the same period, you can imagine how unreasonable this training was, and how unrealistic was the requirement for a battalion test.

To avoid the complications of too many field problems, which are different in each command, let's take one

very simple everyday example. Higher headquarters decided it would be nice to have a retreat ceremony every day. This ceremony can be held at 1700 and the men can then go to supper. But the men should be in class A uniform for retreat and to do that time must be given for the men to clean, wash up and change uniform. Training would have to stop no later than 1630 and maybe earlier. But the requirement for a 44-hour training week necessitated training until 1700 hours, exclusive of retreat. That is a very minor and unimportant example, but it is the type of thing not always considered by those who impose the requirements. It can be summed up by saying that a regimental commander had no say in how his regiment should be trained. His job was to squeeze most of the requirements into a schedule and to be prepared to defend himself for not doing some things.

Since World War II we have attempted to maintain the wartime tempo of training. The rigid training program we adhere to in the training divisions carries over into normal regimental type training. We should get back to a peacetime basis. Any individual or unit that operates at full speed will eventually wear out.

I have already said that the training program was far beyond accomplishment. Most of my company commanders and their junior officers had to work two or three nights a week in order to try to stay even. In addition to this overtime work, these same officers were away on umpire details, field problems, and CPXs almost thirty percent of the time. I have never served in a training division, but every junior officer in my outfit who had, said he wanted no more of it. They enjoyed it—but the company commander's day with the trainees was from 0500 to 1700 hours. He was allowed to do his administration at night and on the weekends. The result was a lowering of standards.

When a job could not be accomplished, it used to be fashionable to say, "Well, what are you doing between midnight and reveille?" Now this was an easy thing to say when we went to the field for a two-week maneuver once a year. The going and coming were great events for the unit and for the families, with the band playing and the colors flying. Further, the requirement that you work a 24-hour stretch might come up once or twice a year. In those

days there was some excitement in having someone demand the extra effort. You enjoyed doing it. This joy doesn't carry over when training requirements keep the officers and men separated from their families or their home base more than half of the time. This tempo of training will have a long-range adverse effect on the Army.

Everyone admits that the commander's role is a very difficult one. Yet when they assign well-qualified men the commander finds that he is at the end of the line. This is bad enough, but it seems to me the good men are not only screened out before they go to units by the higher staffs—they turn right around and select *by name* the best individuals in the units. So the commander gets caught in a two-way squeeze.

There were twelve Regular Army captains in my outfit. Because they are career officers, Regulars frequently have more experience and are available for more and varied types of assignment. Like all other officers, they vary in ability. Over a period of two months, six captains were taken from my unit. In each case the officer had been selected by name, in each case he was a Regular, and again in each case he was one of the best officers I had. I was making an effort to allow these officers to complete a year in a command assignment and then rotate them to a staff assignment. In every case they had been in their new assignment two or three weeks when they were taken from the regiment. My plan made no difference to the Great Unknown who reached down and picked these individuals by name and with such un-

canny accuracy in always getting the best. The same thing happened to Reserve officers in the regiment—the best were always taken, and by name. Evidently little consideration was given to the chain reaction that this type of reassignment starts in a unit. No one asked me to nominate an individual with certain qualifications. This is a practice that should be reinstituted.

#### What has happened to the "backbone" of first-three-graders?

The most shocking thing to me in this "new" Army was the first-three-graders. We have some very fine ones, but we have too high a percentage who drink too much, do not know their job, and are constantly getting into trouble when off duty. The thing that most amazed me was the sentences recommended for sergeants first class and master sergeants who had been found guilty of drunken driving, or equally serious offenses. Sentences ranged from ten days' restriction to a fine of \$25 or \$50. Seldom was a reduction recommended. Here again I must digress. You can say, "The officers who gave those sentences must have been 'sad apples.'" But they weren't. The sentences were the accepted standard. Although the officers bear a lot of responsibility for this, the fact is that the quality of the noncommissioned officers in general is low. They complain about lack of privilege and tell you how much they would do if they had more authority and responsibility. But when you give it to them they do not measure up. They do not study on their own time, they do not strive to improve themselves as instructors

and they do not feel responsible for their men.

I should say that in recent commanders' conferences, we were repeatedly told that the army commander wanted stiffer sentences and corrective action taken to raise the standards of the noncommissioned officer corps. This should have been SOP all of the time.

Some contend that a major cause is the very limited powers of the company commander so far as reduction is concerned. I personally feel that the mechanism is now available to commanders if they would just use it. Granted it is slower and more cumbersome than AW 104. However, when you find that first-three-graders with repeated offenses have not been reduced and when it is a constant effort to impress on commanders their responsibility and rights in this regard, then something is wrong with the system. Perhaps we have gone to an extreme in depriving commanders of the right to reduce. Once in a while an injustice might be done, but in a well-ordered unit the soldier with a grievance has recourse to the next higher commander and The Inspector General.

The gradual erosion of a commander's authority and responsibility is not readily felt unless one has been away from command for some time and suddenly returns to it. Only when the commander begins to feel that he is unable to mold and develop his men and his unit, as he did in years past, does he realize how much his authority has been infringed. It is then that he knows the feeling of accomplishment and pleasure has been taken away from a command assignment. In this knowledge it takes more than the normal amount of leadership that the good Lord allots us to take these pressures day in and day out (and they are not eight-hour days) to avoid that feeling of "I'll be damned glad when this year is over and I won't have to command a unit for another x years."

#### The long-range impact of lowered command authority

The long-range impact is more obvious and less obvious. Unreasonable training requirements, low-caliber noncommissioned officers and the failure to assign more good officers to troop units is steadily lowering the caliber of the men we attract to the Army. In the unit I commanded there are many splendid young officers who have come on active duty for two years. The na-





tion and the U. S. Army would benefit enormously if just a few of them would stay in the service. However, they are kept so busy and they work such hours with little consideration given to their family needs and problems, that they can't get out of the Army fast enough. Far more important, they seldom see the type commander, at the field-grade level, that will inspire them to emulate him and follow an Army career. Just a few more of our outstanding officers sprinkled around at battalion and company level would provide the necessary spark.

In the same sense, we have many AUS soldiers on active duty for two years who are not impressed with the ability and knowledge of at least fifty per cent of their senior noncommissioned officers and have no desire to remain subject to the orders of these incompetents any longer than they have to. Because opportunities for promotion of AUS men are so limited they see no future in remaining in the service. They too can't get out fast enough.

By demanding more of our officers and men than they are capable of giving, we deny them the privilege of doing a job well. One seldom sees a quality performance and the standard soon becomes the acceptable. This develops a feeling of frustration. Thus the long-range impact is a continuous lowering of the standards of our Army. This is most serious.

#### **Time for the experts to make a command survey**

The Army has had management and business personnel subjecting all phases of Army life to close scrutiny. I think it is time someone started scrutinizing what the Army is doing to its commanders. The time has come to demand quality rather than quantity in everything we do; to use statistics as an indicator, not as a bible; to analyze the demands made on units to insure that they are held within some reasonable limit; and to correct those things that in the past ten years have taken most of the pleasure from command and have made it a chore to be avoided if possible, to be done with if someone is unfortunate enough to get it, but yet to be called the one assignment that everyone should have. All the things that contribute to this must be analyzed and corrected.

Some of you are saying at this point, "Boy, have you got a case of sour grapes!" or "He must have had some

pretty sad commanders." Actually, neither is the case. As regiments go these days, mine was a good one and efficient. Report-wise I feel certain I fared as well as I deserved, perhaps better. As for higher commanders, they were fine, and I can say without any mental reservation that I certainly enjoyed serving under them. They were understanding, and within the limits imposed on them they let me run my own outfit. When one can have that outlook and yet feel that the problems enumerated are real, then there is something gnawing at our vitals and we had better correct it.

#### **Recommendation: Argue to the point of decision**

In any such dissertation, the critical reader will ask, "What causes this?" And, more important, "What are you doing about it?" As to the last question, this article is one answer, and as a unit commander I only hope I have done everything I should have to correct these things. As for the first question, there are undoubtedly many contributing factors; my nominations follow.

When an unhealthy situation is encountered we should call it to the attention of our superiors with a recommendation for corrective action. It has been my experience that sometimes they just do not know what is happening at the lowest unit level. If our recommendations are not accepted then we carry out the desires of our commander to the best of our ability. That has always been accepted practice in the Army. We used to talk a great deal about the virtue of discussion until the point of decision had been reached. After the decision has been made you say, "Yes, sir," salute, about face and then go do the job. I think we are losing the facility for arguing to the point of decision.

I have noticed considerable reluctance on the part of commanders to go to the next higher echelon and explain the problems that confront them in carrying out the desires of their superiors. What causes this reluctance I do not know, although I suspect it is caused by a commander fearing that in his effort to point out all the implications, a higher commander might decide he lacked force and was too concerned about those under him. Perhaps it is because one will almost always agree with superiors and isn't "difficult."

There is a difference between the man who is always complaining and making excuses, and the man who has the courage of his convictions, lays his cards on the table and then does what he is told to do without fear that he will lose even if his recommendations are not accepted. As commanders we must comply with directives. But we also have obligation to inform our superiors of shortcomings. If we continue to comply in the manner I have observed, we'll be nothing but a bunch of glorified yes-men. We won't be commanders. What can be done about this? Here is one suggestion.

Under item 11 of the Efficiency Report we have in late years introduced remarks on supply discipline and utilization of personnel. Might it not be appropriate in item 11 to insert an additional item such as, "Has the officer the courage of his own convictions in presenting his ideas on shortcomings within his sphere of responsibility?"

There are many facets to this problem of command. The ideas that have been suggested are those of a regimental commander, who has gone through the trials and tribulations of command on several occasions and finds that there is little to recommend it *now* except the satisfaction that a commander feels when he improves the lot of his men. Right here, the yes-man will say, "That should be enough." I say it is not.

A command assignment should give a commander a feeling that he is contributing to a great ground swell that is improving the lot of the Army. He must not feel that he just has a finger in the dike and that he is just holding back the impersonal tide of statistics, restrictions, and pressures that may overwhelm his unit at any moment. He must not feel that he personally is just one jump ahead of the sheriff, insofar as his career is concerned. He must feel secure in a well-founded belief that loyalty and integrity between commanders is a two-way flow; that his superiors know and understand his problems and are ready, willing and able to assist him over the rough spots. No satisfaction, no pride in accomplishment is greater than that of the troop commander who watches his officers, his men, his unit, develop under his guidance. Return these other attributes, recognize the commander for what he is, and good officers will again clamor for and fight to retain command assignments.



## A Systematic Theory of War Potential

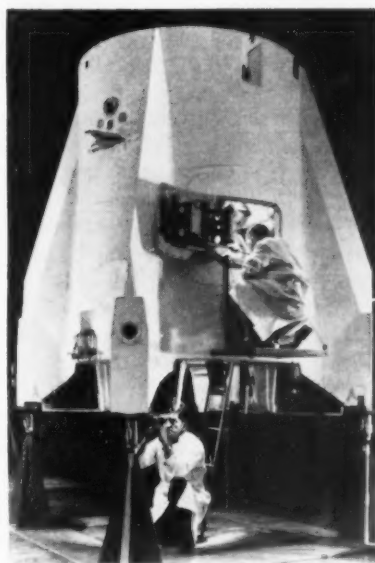
# The Intangibles of War Potential

BRIGADIER GENERAL DONALD ARMSTRONG

IN the days when battles and wars were won by the big battalions or on the playing fields of Eton, strategy was limited in scope. Generals confined their thinking and planning to military operations. Today generals and their staffs are not the sole protagonists in the theater of war. There are other equally important performers. These are the political and the business and industrial leaders, in the widest sense, who unite and coordinate the total life and resources of a nation for a war effort, and to a lesser degree for a cold war, or a limited war.

Strategy has broadened its scope and taken on added meaning. It must now concern itself with political, economic and psychological forces as well as with the military forces which used to be its sole preoccupation. Military leaders

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The art of organizing and administering large affairs is hard pressed by the rapid advancement of complex technology.

*Wiring the tail of a Redstone missile*

cannot forget their share of the responsibility for a sound economy, for a strong national morale, and for an effective administration of the nation's war potential. To meet this responsibility they must know what constitutes war potential. With this knowledge the fighting front and the home front can then pull together with greater promise of success. If the military mind is fully aware that the armed forces are only as strong as the civilian base that supports them, the teamwork of all concerned will inevitably be improved.

A valuable book\* by Professor Klaus Knorr of the Center of International Studies at Princeton University, is devoted to this subject. Prior to the publication of this book, war potential has been examined only in bits and pieces. There are many excellent studies of the fragments of war potential. Such problems as converting the factories from peace to war, the overall management of the economy in a major war, the raw materials in short supply, the use and misuse of manpower have been analyzed by a number of informed writers. Comparatively little has been written about national morale as an essential element of war potential, in spite of the example of the fall of France in 1940. This book discusses the will to fight of the civilian population and offers excellent suggestions for improving national morale. This, however, is only one item among the many useful contributions Professor Knorr offers. Summed up, he teaches us how to make an estimate of the situation on the home front.

He reminds us that "at any given time, a nation's military power consists of its mobilized armed forces and its war potential." This of course is not news. Every nation depends on its industrial and economic capacity to enlarge and maintain its armed forces when they are needed. How effectively these resources can be used and how quickly they can come to the aid of the armed forces depends not only on the quantity and quality of these re-

\*THE WAR POTENTIAL OF NATIONS. By Klaus Knorr. Princeton University Press, 1956. 310 Pages; Index; \$5.00.



The clever hands of women can do some things better than either men—or automatic machinery. A nation's war potential depends upon the wise direction by its leaders of an intelligent and industrious working force.

*Production of Nike ground guidance equipment at a Western Electric plant.*

sources. For war potential is also a matter of certain intangible factors. The striking contribution of this book is the analysis of these constituent factors.

**T**WO essential ingredients of war potential are a nation's organizational ability and administrative skill in using its economic capacity efficiently, and a nation's motivation for war or what we might call its morale. This latter component, as Dr. Frederick S. Dunn, Director of the Center of International Studies at Princeton University, states in the foreword, "in large part determines the share of the national economy that is to be available for producing military power."

Some authorities deny the value of the concept of war potential in the atomic age. They admit readily enough that in the past, and particularly in the last half century, there was time to develop potential power into actual power as this country did in both World Wars. Atomic war, they argue, will be over in a few days or weeks, and we will have to fight with what we have.

Even if this were true, the principles deduced in this study for the effective use of war potential apply in large measure to peacetime planning, to a cold war, or to a limited war. Professor Knorr argues convincingly for the validity of the concept of war potential in all circumstances and it is unquestion-

ably the part of wisdom to pay heed to his premises and conclusions.

He classifies the elements of military strength, other than the armed forces, into these three categories: (1) the motivation for war or the will to fight, (2) the administrative competence and capacity for war, and (3) the economic capacity for war.

The feeble will to fight in France and Italy in World War II diminished the will to utilize the economic resources and administrative skills of those nations. Professor Knorr seeks "to identify the motivational process, and key variables in it, as they bear on mobilization for a large-scale war effort, and to show how individual motivations are aggregated in any society." This analysis leads him to conclude that the will to fight in the civilian population depends less on the form of government and the social structure than on the motivation of individuals and on the influence and skill of leaders. Government leadership plays the major role by means of a psychologically sound program of information, by persuasion, and by bargaining. He discusses each of these means of strengthening the motivation for war and provides appropriate examples and comparisons of results in democratic and totalitarian countries. Professor Knorr's contribution to a theory of war potential is greatly enhanced by making the

"will to fight" the initial phase of his study.

Next, Professor Knorr develops his theory by examining another intangible factor. This is a nation's administrative capacity for war. In a major war the economy must be organized to serve a supreme public purpose. Government administration and control must largely replace the operation of the market place in a free competitive economy. Private consumption and the civilian ends of government must give way to providing labor, materials and capital facilities needed for the conduct of war. In a major war the government must undertake the stupendous task of regulating the size, composition, and distribution of the national product.

**T**HE war potential of a nation increases as proficiency is gained in using and distributing national resources. Better administrative capacity means that a larger fraction of a nation's resources become available for the mobilization. This discussion is extremely valuable in defining the administrative tasks of a major mobilization, in discussing the problems encountered in allocating productive resources to the various claimants and users, and in explaining the skills needed to perform the necessary functions.

In analyzing the third component of war potential, i.e., a nation's economic capacity for war, Professor Knorr describes the nature of economic resources (manpower, natural resources, tools of production, skills) with emphasis on the productive factors of special importance in wartime. He shows how the relative war potential of various countries can most readily be estimated by comparing the statistical data that is available. He examines pertinent figures from the years before World War II because of the usefulness of such data in illustrating the influence of economic differences in that war. He proves the essential function of foreign trade and the method of using data on national income in comparing and estimating war potential. The relative flexibility for converting from peace to war production is another basic factor which he develops clearly.

Professor Knorr makes frequent reference to the influence of the motivation for war and of administrative capacity on the effective use of economic strength. Regardless of the kind of war we may have to face, war potential will continue to be a part of military

power. Never in this book is potential assumed to be a substitute for strong armed forces in being which furnish necessary deterrent power. Miscalculation of war potential, however, has serious practical consequences. Great damage was done to both sides in the late war partly because estimates of war potential lacked a theoretical base of the sort developed by Professor Knorr. For example, the Germans failed utterly to estimate Britain's will to fight as a component of war potential. They likewise obviously miscalculated Russia's war potential. Japanese underestimates of U. S. potential lost them the war. In the final stages of the war we overestimated Japanese potential with unfortunate political consequences. The theory developed by Professor Knorr is no easy road to certainty in evaluating war potential, but at least it defines its elements with some idea of their relative importance and interrelationship.

It is worthwhile to add that this is no manual of economic mobilization, nor is it the analysis of the war potential of any specific nation. It is a successful attempt to abstract theory from the concrete examples of the past, particularly from World War II. A systematic theory of war potential has long been needed, a theory which like the achievement of Clausewitz's study of war, would supply war potential with a theoretical foundation for planning, controlling, and evaluating its elements.

It is curious that until this book was written no one had tried to do for war potential what Clausewitz had done for a better understanding of the nature of war. Just as Clausewitz showed that war touches every science and art, that it is a matter of the human emotions as well as of politics and military forces, so Professor Knorr realized that war potential has a breadth, a diversity and a complicated structure that needs to be synthesized into a theory and a philosophy.

War potential, for instance, has its frictions which could prove as disastrous in a major mobilization or even in a cold war as the frictions Clausewitz observed in war. A well instructed army, understanding war potential and the army's relation to it, can diminish the friction. Professor Knorr's emphasis on the moral and emotional aspects of war potential, just as Clausewitz did for war, is a principal reason for the book's superiority. He shows us clearly

why some nations are strong and others weak, why some nations rise in power and others fall.

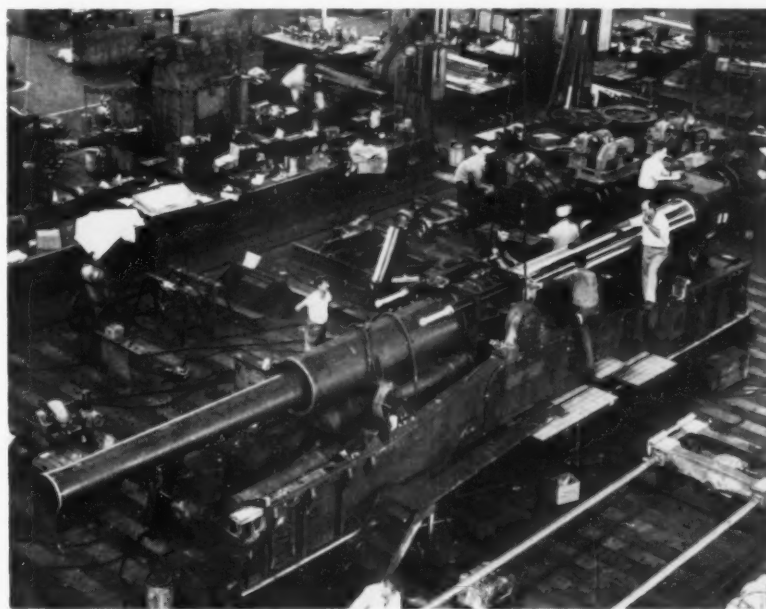
AN army General Staff has to adapt itself to the increasingly complex social and economic background of war. No longer can military plans for a stronger posture of defense or for a war be made independently of the knowledge and coordinated use of war potential. The scope of General Staff functions has vastly increased. The problem is further complicated by the increasing emphasis on quality of arms. The nation whose armed forces know how to exploit the intricacies of industrialization, and which can harness technology and science will have a vital superiority. Such understanding on the part of the professional soldier adds a valuable component to a nation's war potential.

The enemy now has atomic bombs, guided missiles and long-range aircraft. The strategic problem may therefore differ fundamentally from its counterpart in World War II. Professor Knorr has not proposed fighting World War II over again in his study of war potential. He writes: "Throughout this study, historical data have been used for the sole purpose of developing insights into the *kinds* of conditions to which the practical student of war potential must pay heed. The emerging framework and conclusions are in-

tended to be of help in the estimate of *actual* situations. To have suggested, for example, that a particular structure of occupations or of heavy industry of a particular country would have borne the same relation to its war potential in 1914, 1939, and 1956 would be the height of naïvete, even if nuclear weapons had not been invented."

Professor Knorr's analytical structure facilitates the application of changes in war potential and in the physical nature of war itself to the theory and practice of the effective use of this potential.

IN the world we live in when war and peace are no longer sharply divided from each other and when the armed forces should be coordinated at every moment with the war potential, Professor Knorr's thoughtful inquiry into the scope and nature of the moral, administrative, and material might of nations can well be a valuable contribution to increased power for survival. This book is assuredly not the definitive work on war potential and its relation to military strategy which will some day be written. But it has the great merit of pointing the way to such a book so far as war potential is concerned. It also incidentally proves how far-sighted was the fundamental change begun several years ago in the organization and objectives of the Association of the United States Army.



Modern production is a blending of automatic tools and skilled supervision  
*Assembly line of 280mm atomic gun at Dravo Corporation plant in Pittsburgh*





## What Are Command's Responsibilities to the Army Aviator?

# Soldiers With a

MAJOR GENERAL HAMILTON H. HOWZE

**B**EING comparatively new and rapidly expanding, Army Aviation has made the lot of the Army aviator fairly unique. As an aviator he knows intimately the experience of flying his craft through unstable air—air seemingly full of rocks and ruts and ditches which bounce him about, sometimes to his distress. Up to the present his military career has also been unstable—bouncing him about, sometimes to his very acute distress.

I am addressing myself here to those who control the fate of the Army aviator: the whole command hierarchy of the Army, ranging from the battalion commander up. How must the Army aviator be handled, how must he be brought along in order that he shall be of maximum utility to the Army he serves? If organic aviation is important, this is important; the over-all efficiency of Army aviation is just as dependent on the quality of its personnel as is a regiment of infantry.

### Possessor of a special skill

First and foremost it is necessary to

look upon your aviator not as a separate character out of the mainstream of Army activity, but as an Army officer possessed of a special skill. It is not unusual to hear line officers of the Army deprecate the art of flying an airplane—anyone can do it, they say. Well it is true that almost anyone, with only a few weeks of training, can get an airplane into the air and back on the ground in good weather without disastrous results. On the other hand, the exigencies of military flying and the various emergencies which are bound to occur in the course of several years in the air require judgment and skill, and these qualities take time and effort to develop and maintain. Flying has been defined as long hours of boredom interspersed by short moments of sheer terror. I don't buy the boredom part, for flying is really great fun. But I will testify to the terror.

Any aviator will tell you of the uneasiness that he senses when he climbs into the cockpit of an aircraft after even a short layoff. It is a matter of genuine discomfort when he notices that he has to look for the location of certain vital instruments and controls, that his reactions have dulled to an extent that they are no longer automatic and instinctive, that he has lost the feel. He does not regain his composure for some little while—perhaps a few minutes if his layoff has only been for a week or so, much longer if the layoff has been longer.

So flying is a very demanding specialty. The maintenance of true proficiency, which must include instrument flying in difficult circumstances, requires of the pilot constant attention in his daily life—repeated practice, plus

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# Double Skill

long hours of intense study. I rather think that those who don't believe this, will be susceptible to conviction after a single experience in bad weather and a faulty airplane with an incompetent pilot.

## **What it means to be a flying soldier**

Almost as important, and unfortunately somewhat competitive with the foregoing, is the necessity of making the aviator a thoroughly integrated part of the unit he serves. While Army flying is unique, requiring special skills found nowhere else except in Marine Corps aviation, the mere mastery of the skills is not enough. The aviator will achieve his fullest utility only when he understands and appreciates the operation of ground forces.

The reason that certain types of aviation must, for real effectiveness, be organic to the Army is that only through making them organic can the aircraft and pilots be made truly responsive to the demands of the ground troops. This responsiveness is not gained merely by placing the pilot in Army uniform and painting "U. S. Army" on it in Gothic letters. It must be achieved by inculcating in the pilot a thorough understanding of the nature of ground warfare. Only through such training can the pilot recognize what he sees on the ground for what it is; only thus can he develop the tactical judgment necessary to perform his mission; only thus can he achieve sympathetic appreciation of the problems and difficulties pertaining to the land battle. The Army aviator cannot be simply an airman; he must be a flying soldier.



Flying is a demanding specialty requiring a high degree of proficiency that can be attained only through constant attention and practice

The flying soldier must understand ground combat, including knowing whether what looks like an enemy gun emplacement is really one or a dummy position. This one is a dummy.



The newly published Army Regulation 600-105 provides for this by contemplating that the aviator will serve for at least one year in each grade held in a ground assignment, and it makes adequate provision for the attendance of aviators at the branch schools and in the higher service schools. But the formal career program must be complemented by proper handling of the aviators by commanders at all echelons.

#### **Give him ground command jobs**

It is particularly incumbent on a line-unit commander (say, an infantry regimental commander or an armor combat commander) to school his assigned or attached aviators in the tactics of the line unit. As one means to this end, the flyer should attend all the unit schools on the same basis as other officers of the battalion. He should, periodically, be given a ground job to do, perhaps lasting only a single day. There is no reason whatever why an aviator cannot command an infantry or tank platoon or company on a tactical exercise; I even venture to predict that he will do very well at it. He cannot fail to profit from it, and the regiment or battalion cannot

fail to profit by his increased knowledge.

The commander, also, should utilize his senior pilot in his secondary function as a staff officer. The ranking aviator flying for you should be held accountable not only for the operation and maintenance and supply of your own aircraft and the training of your pilots, but also as an adviser on all matters pertaining to aviation. If he is brought into the problem correctly he will have much to suggest as to how aviation (cargo helicopters and airplanes) can assist in the way of carrying assault troops, moving reserves, resupply, evacuation, and the like; he can help you wangle the necessary attachments out of higher headquarters; he can render valuable assistance in the operational control of these aircraft, including the selection of landing and dispersal areas and the provision of POL for them; he can figure loading for you; he can advise you directly on what is practicable and what is foolish.

And his advice, moreover, need not be confined to matters aviaional. From his vantage point in an aircraft he can see many tactical opportunities, and pitfalls, pertaining to your tanks and infantry. But he must be brought

fully into the picture, and not left cooling his heels out on the airstrip.

#### **Opportunity for high command must be in his line of vision**

It is also necessary that the Army aviator see his way clear (granting always the basic personal ability) to high rank in the Army. For example, he must see plainly ahead of him the possibility, provided he qualifies, to become a field-army commander.

Because Army aviation must be so thoroughly integrated into the structure of the Army itself, there are not now, nor will there ever be, aviation "commands" suitable to the rank of a general officer, the single exception to this, of course, being the Aviation School, which is not a tactical command. To put it another way, it is hard to visualize a fleet of Army aircraft, led by a major general waving a sword from his cockpit, charging through the air against the enemy.

However, in these days of change and modernization of the Army, the wings of an Army aviator enhance the over-all military capacity of the officer who wears them. Those wings denote a familiarity with the detailed operation of aircraft, and therefore an appreciation of their potential. A capable

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## **Mid-Air Refueling Demonstrates Skill of Flying Soldiers**

The U1-A "Otter," as tanker aircraft, feeds a thirsty Workhorse during the transcontinental flight. Four such aerial refuelings were made during the 2,610-mile non-stop flight. A fuel pump in the Otter furnished pressure.

During the non-landing 2,610-mile transcontinental flight of an Army H-21C Vertol helicopter, aerial refueling techniques developed by the Army proved their effectiveness. The series of photos appearing here show that the techniques of refueling from a DeHaviland U1-A Otter and from the ground require a high degree of skill.



tanker or artilleryman or infantryman will be a better tanker or artilleryman or infantryman by virtue of having achieved an understanding of the capabilities and limitations of light aviation.

The ceiling on the aviator's career has been already theoretically removed by AR 600-105. It will be actually removed for each aviator when he has developed the tactical competence pertinent to his branch. It is obviously incumbent on him to be alive to opportunities to keep abreast of tactics and techniques, and he will, I hope, be accorded the sympathetic assistance of his commander in keeping up to snuff on the working basis previously discussed. And it is up to his branch career management to give him the ground-duty assignments and afford him the schooling necessary to progress.

#### **'Double competence' can be achieved**

The development and maintenance of the double competence—in the air and on the ground—will make special demands on the aviator, but I contend that these are demands that the Army has the absolute right to make. I make no apology whatever for the fact that success as an Army aviator requires special determination and

special energy to achieve. Only if an aviator develops the "double competence" can he achieve maximum utility to the Army. But to keep all this in perspective, I must caution once more that the special skill of flying and performing the other functions pertaining to aviation will demand the major part of his attention.

The problem is actually not too difficult. Only a small part of the total working hours of the average officer are devoted to the execution of the battle mission of his arm. This is true even in a line outfit, and we all know how much of our service is not with troops. We therefore have only to be careful that when an aviator is placed on ground duty it will be in a job which will really provide him education in tactics and technique. If that is done, the problem is solved.

#### **The commander and his aviation detachment**

The Army aviator also wants recognition. There is a demonstrable but regrettable reluctance on the part of many senior officers of the Army to inspect their aviation detachments.

While it is too much to expect the busy commander to acquaint himself with all the ramifications of aviation,

he need feel no hesitancy in turning out his detachment for inspection. Certainly he can tell a neat soldier from a sloppy soldier, a clean airplane from a dirty one. A good aviation detachment will have an aura of efficiency which anyone can detect. Military discipline, military courtesy, good appearance of personnel and equipment, cleanliness and orderliness of facilities are just as much indicative of the overall efficiency of the aviation detachment as they are of an infantry or tank company. For an understanding of the technical competence of the detachment, the senior commander should take along with him his aviation officer and require of him inspection of the technical aspects of the operation.

The commander should demand of his subordinate aviation detachment or unit the execution of a first-class training program. A proper program comprises both individual training and unit training.

#### **Continuous training: individual and unit**

A good individual training program should be executed under the strong supervision of the aviation officer. It is a very great mistake to assume that an

One of the two ground-to-air refuelings made during the flight. The H-21C hovered over the gas truck as it took on fuel. This method of refueling was necessary when the aircraft ran into extreme turbulence, which made the hose connection between tanker and H-21 difficult.



The grapple hook catches fuel line, during a ground-to-air refueling. Two such refuelings were made because of extreme turbulence. Four in-flight refuelings were also completed. The same grappling technique was used in air-to-air refueling.



individual pilot, when he arrives at the unit, is sufficiently competent to execute his mission. Constant check and recheck of flying proficiency is necessary. Especially is this true as respects the recently graduated student of The Aviation School; he needs regular, thoroughly supervised instruction by selected instructor pilots. If he does not get it, he will not improve on his own hook; he is far more apt to become an incompetent and dangerous pilot, and end up with a flying machine in a tree or ditch.

The unit training program is also important. In an active line unit, the pilot will of course gain competence in his specialty in the course of tactical exercises and maneuvers. The more of these he can participate in, the better. On the other hand, they are not sufficient, for the reason that the usual exercise or maneuver is not directed especially to the training of aviation, that aspect being logically subordinated to the greater requirement of training the line unit itself.

Necessary therefore are aviation field exercises. Perhaps I could use the aviation of a division as an example.

At least twice annually the division aviation officer and the general staff of the division should collaborate in

drawing up an aviation field exercise. Friendly and enemy situations can be formulated, the division mission stated, tasks assigned to subordinate elements of the division, objectives selected, sectors drawn, and so on. In accordance with this map situation, airstrips and dispersal points may be selected, and the aircraft with their pilots and mechanics and vehicles and communications actually emplaced on the ground. A small division operations center, with G1, G2, G3 and G4 representatives, should be established in the field, and from this operations center should emanate orders changing the location and mission of the subordinate elements of the division according to the logic of the assumed situation, and giving to the several component parts of division aviation appropriate missions to fly. In some cases no troops whatever will be necessary, aside from those in division aviation and the small operations center. On some occasions, on the other hand, it may be desirable to use a few troops to create targets for division observation aircraft.

The main object of such an exercise should be the selection and utilization of the strips and dispersal areas, the operation of division aviation in typical missions with special attention to mis-

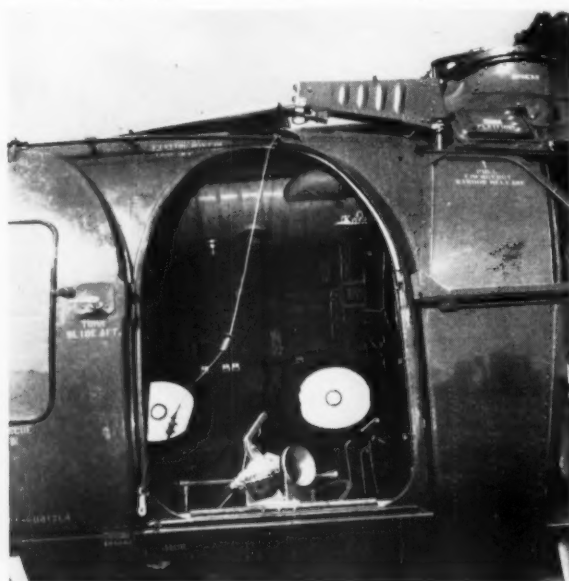
sions at night, the camouflage and concealment and dispersal of aircraft, and the maintenance and logistical support of aircraft. These are vital techniques some of which were not well demonstrated in the last exercises observed.

#### **The potential contribution of aviation to the Army mission**

In conclusion let me say that Army Aviation has a very great deal to contribute to the battle efficiency of the Army. Properly handled it will provide responsive, accurate observation; it will greatly augment the ability of the weapons of the Army to kill the enemy and destroy his facilities; it will provide the rapid and positive control of rapidly moving forces in fluid situations, where control would otherwise be impossible; on occasion it will provide supplies, urgently needed, promptly and at the spot required; it will preserve the life of many individuals who would otherwise die on the battlefield; and it will provide mobility unmatched by the armies of any other world power.

But these benefits can only come about if we are very energetic and very wise. The necessary wisdom may be partially manifested by the proper cultivation of that fascinating creature, the Army aviator.

This shows how the receiver fitting for the fuel hose is located on the floor of the helicopter at the rescue door. Note grappling cable strung from the hydraulic hoist.



With nozzle in place, the 300 gallons of fuel flow into the forward auxiliary fuel tank inside the H-21 cabin. Three 300-gallon tanks were used on the record flight.





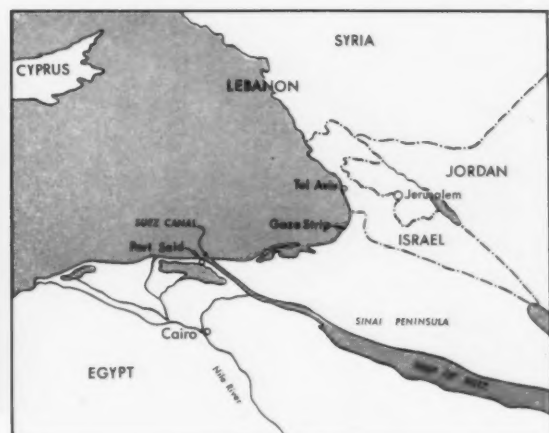


The UN flag flies over Danish soldiers manning a sandbagged machine gun emplacement on the Suez Canal

SIX PAGES OF PICTURES FROM THE

## Troubled Middle East

*Forces of four nations cease fire  
when UN truce troops move in*



## Israeli-Egyptian Conflict

An Israeli forward observer directs artillery fire on Gaza, Egypt, during the swift conquest of virtually all of the Sinai Peninsula





**Egyptian roadblock? Advancing along a desert road near Ismailia, Israeli soldiers came upon this barrier of Egyptian Jerricans**



**The ammunition in this dump near Sinai was of Russian manufacture, according to the Israeli troops which captured it**

**Egyptian tankmen load a U.S.-built M4 tank with ammunition. The Egyptians also had British and Soviet armor**



## Anglo-French Forces Invade Canal Zone

The statue of Ferdinand DeLesseps, the builder of the Suez Canal, looks down on French Colonial troops who are preparing a bivouac







French forces splash through the surf towards a beach near Port Said



Two French tanks block a street in the residential section of Port Said following its capture

British Tommies moving into Port Said pass through debris-lined streets



## UN Truce Forces Move In



Norwegians make themselves at home in the Suez



Colombians prepare for show-down inspection

Newly arrived Yugoslav troops march off an airfield



## **A Vignette of Truce Duty**

# **THE TWO COLONELS WERE FIRM**

**WILLIAM H. STONEMAN**

GAZA, 10 November 1956

**T**WO chipper young colonels, one an American, the other an Israeli, both with fine combat records in World War II, have been waging what amounts to an Israeli-American war down here, all on their own.

The American is Lieutenant Colonel Robert Bayard, veteran of the 11th Airborne Division and now chief of the United Nations truce supervisory organization stationed in Gaza.

The Israeli is 34-year-old Lieutenant Colonel Chaim Gaon who served as a major in the British Fourteenth Army in the Far East and who is now military governor of the Gaza district—an area seized by Israeli forces from Egypt a week ago.

What these two men, both handsome, personable and brave, have done in recent days while doing their duty and in the absence of clear instructions from their superiors might easily have led to serious consequences.

It began when the Israelis took the city of Gaza.

There was a lively spat between Bayard and Gaon when Israeli troops approached United Nations headquarters near the beach. Bayard informed Gaon, the commander of the Israeli troops, that four destroyers and one assault transport, the U.S.S. *Cambria*, which lay offshore ready to pick up noncombatants, were American ships.

Gaon demanded to know how American warships had managed to penetrate "territorial waters" and Bayard replied by asking "Whose territorial waters?"

Theoretically, the Gaza area was still Egyp-

tian and so were the neighboring waters.

Gaon insisted that the area was Israel's and noted that Israel had two destroyers in the neighborhood.

"If you fire," Bayard said he told Gaon, "boom goes the \$256,000,000 you are going to get from the United States this year."

Bayard remembered having read the figure somewhere and was not certain it was accurate. It is not.

The crisis deepened Wednesday when Gaon, who had been under orders to secure peace in the area of Gaza, demanded that the United Nations outfit commanded by Bayard should give up all its radios which ordinarily are used for communicating with headquarters in Jerusalem and U. N. jeeps patrolling the former armistice line.

Bayard told Gaon he and his assistants would have to take the radio sets by force—which they did. No shots were fired but the doors were forced.

Thursday, following the airing of this action in the United Nations Assembly on Wednesday, Gaon sent an assistant to return one of the three sets seized the day before.

Bayard refused to accept it.

"I did it as a matter of principle," Bayard said. "If I took something out of somebody's home I would expect to return it intact with apologies. Gaon took the stuff away and he should bring it back with apologies."

Newspaper men who found both battlers pleasant and decent agreed that both of them probably had been right and that this was the nonsense of which wars are born.

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## THE MONTH'S READING

### Brimstone of a Wife

MAURICE ASHLEY  
Marlborough  
The Macmillan Company, 1956

... We have long learned to despise the simple explanation which attributes Marlborough's rise to power in 1702 solely to friendship [of his wife, Sarah,] with Queen Anne or his ultimate fall in 1711 to Sarah's loss of Anne's affection. Marlborough became the Allied Commander-in-Chief by reason of his own abilities and he lost his position chiefly because he was opposed to making peace when the country wanted peace. Sarah's place in Marlborough's life was different, though equally important. She helped to mould his character as a domineering wife can. He was in fact the henpecked husband *par excellence*. He acquired his monumental patience in the hard school of his own home.

Marlborough had married out of passion inspired by the youth, beauty and vitality of Sarah Jennings. But in deciding to marry her handsome professional soldier she seems to have been influenced by something more than good looks. ... Sarah's ability to pick out able men is unquestionable. But though her push and thrust may have spurred him on, Marlborough's success was not her work and she damaged rather than sustained his career. For she had a pen steeped in gall and a caustic tongue which lost her more friends than they made. Her temper was fierce and notorious. When a lampoon had compared Marlborough to the Roman Count Belisarius and Sarah asked Bishop Burnet where the comparison lay, he blurted out, truly enough, "he had a brimstone of a wife." She had an infinite capacity for quarrelling which extended not merely to her mother and mother-in-law and to Queen Anne, but to her husband, children, grandchildren and most of her circle of acquaintances. Most of her daughters acquired their mother's temper and the Duke had to pour oil on the troubled family waters. After her husband's death, Sarah used to say that she received obedience and affection only from her three dogs.

### Alphabet of the Apocalypse

CARLOS P. ROMULO  
Saturday Review  
8 December 1956

IRBM stands for the Intermediate Range Ballistic Missile. ICBM stands for the Intercontinental Ballistic Missile. Each can be armed with a superhydrogen warhead. NW stands for the Nuclear War that will surely result if these monsters are not soon controlled. BWCW stands for Biological Warfare and Chemical Warfare which would bring upon our planet the abomination of desolation. If those letters are mixed together by man's fear or folly, the

triumph of hell on earth will follow—made by man, directed by man, aimed at Man. This in very truth is the Alphabet of the Apocalypse.

### Isn't It Time to Pull Up Our Socks?

C. L. SULZBERGER  
The New York Times  
26 November 1956

The fundamental principles of American military strategy have again been brought to public attention by the latest war scare. The question raised was brutally simple. If Moscow decided to fly formations of armed "volunteers" into the Middle East, how should we react?

Were United States carrier-borne aircraft to interdict such Russian units en route, surely we would have to be prepared for the sharpest kind of reaction. And yet, apart from such interdiction, is there any other potential riposte within the area affected? We have too small a conventional army to help contain Soviet "volunteers" on the ground without denuding our defenses elsewhere.

It is doubtful, judging from such information as we possess, that the U.S.S.R. wishes or is indeed ready to risk nuclear conflict. But this is a gamble, *in extremis*, which our present military posture forces us to accept. For we are in poor position to fight a limited war.

The United States has a powerful navy and air force capable of devastating retaliatory striking power—the concept of our present defensive strategy. But we have only nineteen army divisions and there is even talk of reducing this small number. Therefore it is hard to conceive of our conducting a Korean-type operation again except under unusual geographical circumstances.

The Soviet Union, on the other hand, is capable of two kinds of warfare. It has geared its immense military machine to the horrible possibility of total nuclear war. But it is even better prepared to carry on old-fashioned, non-atomic conflicts as in Hungary.

Moscow maintains a constant strength of 175 divisions, including sixty-five armored divisions. True, Russian rifle divisions are smaller than our own but their initial fire power is nearly as heavy.

The U.S.S.R.'s human reservoir is huge. In 1945 the Soviet battle order numbered 692 divisions, plus 129 air divisions. In any atomic conflict, with aircraft bombing troop concentrations, Moscow could afford to lose five divisions to every one of NATO and still replace them rapidly.

Despite Moscow's clever propaganda about force reductions, conscription continues at a rate unimagined in democracies. Military training is a duty for all citizens between 16 and 50 and reserves are called up regularly for refresher training.



The Soviet Navy, although relatively weak in surface ships, has more submarines than all the rest of the world. One of Russia's technicians, Major General Olisov, observes: "Of all vessels the submarine best withstands the pressures created" by atomic war. The air force is vast—possibly 25,000 planes. The Long Range Air Force [A. D. D.], of which we know little, is directly under Defense Minister Marshal Zhukov.

It would be a mistake to assume we are decisively superior in military hardware. The late German Field Marshal Guderian warned: "Nothing would be worse than to underrate the strength of a great nation as full of life as the Russian."

That great eighteenth century general, Suvorov, taught: "The more comfort, the less bravery." This revolutionary generation has been hardened to destruction.

Soviet intelligence is expert. Moscow newspapers printed a faked dispatch Oct. 26 warning that Britain and France had agreed to intervene in Egypt. Five days later they did. Apparently the most notice Washington had in advance was twenty-four hours.

We cannot assume our nuclear leadership is preponderantly decisive. If Moscow has sufficient atomic weapons to knock out industrial-population cores by surprise, a larger allied stock might lose its value.

Suvorov, still the classical guide for Russian strategy, advocated "Quick grasp, speed, shock." Marshal Rotmistrov of the armored forces writes openly of the "growing role of surprise attack." Kraznaya Zvezda recently stressed the importance of "getting in the first blow."

Is it not time again to assay these facts? Does it not appear absurd that the Western coalition, with a population of perhaps 400,000,000, cannot maintain in Europe more than a tenth of the Soviet and satellite divisions facing them?

No civilian can hope to measure the factors that help our Administration to decide military posture. But, with electoral issues behind us (including Stevenson's absurd ideas on the draft), shouldn't we consider pulling up our socks?

When this month's crisis came to a head it was apparent Moscow, should it so desire, had two military choices: limited war with overpowering conventional forces; or that nuclear holocaust the whole world fears. We had no ultimate alternative but to risk the latter.

Perhaps this position is correct. Perhaps civilization has exploded to such a degree with the advance of scientific knowledge that it is no longer worth relying on any reckoning but peace or victorious suicide. Current events should make us again reflect whether such is indeed the case.

## The Army is Men

GENERAL W. G. WYMAN

Address, Army Command Management School  
8 October 1956

In studying a postwar paper that was written to determine how to improve our administrative system, I ran across this thought: In the military we must find some

term which in reference to its product can be used to define that which in business we call "profit and loss."

In discussing this with one of our chiefs of staff he understandably blew up. He said: "They are talking about a product which is intangible. In the military the intangible is one of the most tangible things with which we deal. How will we measure the spirit which produces a fighting infantry battalion?" This we must watch.

It made a lasting impression on me when I heard a lecturer at the Armed Forces Staff College in Norfolk draw an analogy between the military services. He said that the Air Force is an arm which has great instruments of war flying through the air piloted by the hands of mere men. The Navy, on the other hand, is an arm which has great instruments of war passing through the sea controlled by the hands of men. However, in the Army our weapons are just people—masses of men who have in their hands tools with which to win victory. There is a vast difference.

In the air battle the cost is measured in planes shot down or destroyed. In the sea battle the cost is measured in terms of ships sunk or destroyed. But in the land battle the cost is measured in terms of lives lost—an interesting comparison.

## What Does the Commander Want?

KENNETH P. WILLIAMS

Lincoln Finds a General, Vol. IV  
The Macmillan Company, 1956

A commander must also put full responsibilities upon his subordinates and encourage the offensive spirit. Here is what Grant wrote to [Brig. Gen. Grenville M.] Dodge [during the advance on Vicksburg]: "When you are satisfied the enemy can be attacked and repulsed without endangering the post from other parties, do it. You can judge the propriety of attacking at Guntown better than I can." Then followed a sentence that showed his understanding of a good subordinate's feelings. At the moment, Lew Wallace was under orders to return to Grant, and Grant said to Dodge, "General Wallace will probably relieve you in a day or two. A division then awaits you here." Dodge knew Grant's standards for a field commander and he must have been deeply touched.

A general must also build in subordinates the feeling that they will not be forgotten. We have seen Grant tell [Col. John K.] Mizner, "Should you discover any movement of the enemy toward Colonel [T. Lyle] Dickey apprise him of the fact or go to his assistance, as may seem best." To Dodge he telegraphed: "Keep me informed of appearances around you. Should you be advanced upon by any considerable force I will reinforce you." One can not exaggerate the significance of such messages, with their simple, clear sentences. Even in minor matters Grant showed himself the master. Here was the ending of a note to [Maj. Gen. Charles S.] Hamilton . . . : "Detail four good companies of cavalry, well commanded, to remain at Holly Springs until they receive orders from me. I want to send them to communicate with Sherman." Subordinates should always feel their commander knows what he wants. Grant's subordinates never doubted.



Comedian Joe E. Brown gives trophies to top three participants in 800 meter run at the Interservice Track and Field Championships at Los Angeles. Winner was Army's Private Tom Courtney

# ARMY SPORTS IN AN OLYMPIC YEAR

At Melbourne Private Courtney breezes to a close finish in the 800 meter race. He also was a member of the winning 1600 meter relay team, thus won two Gold Stars



## MASTER SERGEANT ROBERT L. GROOVER

THE past twelve months can be chalked up as the Army's greatest year for mass participation in sports. Soldiers participated in thirty-nine different sports and more than 11,000 athletic teams played football, baseball, softball, and volleyball in organized leagues.

Significantly 1956 was an Olympic year and more than a thousand soldier-athletes entered Olympic trials. Forty-four of these were chosen as members of the U. S. Olympic team.

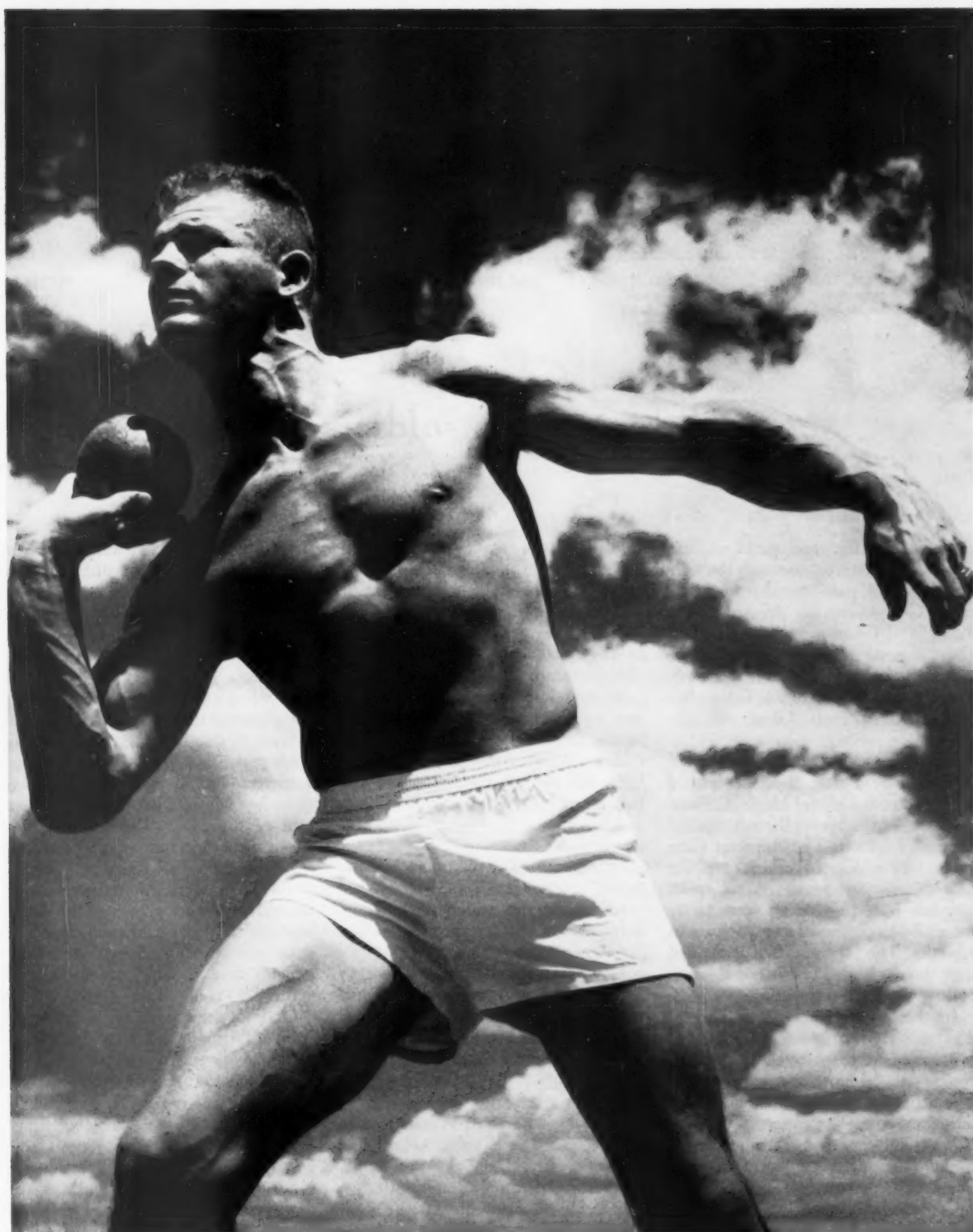
It is not accidental that the Army sports program produced such a large number of Olympics hopefuls. Army sports have a definite purpose—to maintain an army of alert minds and strong bodies, capable of coping with the physical demands of modern warfare. Happily, Olympic requirements coincide with this objective.

The most popular single Olympic sports activity seems to have been track and field. Aside from tennis, golf, softball, baseball, bowling, and football—not Olympics sports events—track and field athletes submitted ninety-seven applications for Olympics tryouts, the greatest number received for any individual Olympics trial.

With every member of the Army a soldier first, the small-arms training program, while not a part of the Army sports program, was of double importance in this Olympic Year. A record

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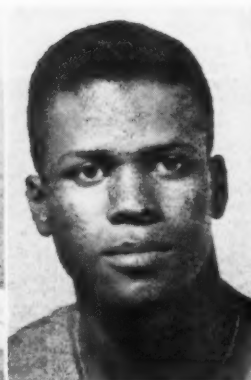
Master Sergeant Robert L. Groover is assigned to Special Projects, Civil Liaison Division, Office of the Chief of Information, Department of the Army.



One of more than a thousand soldier-athletes who entered Olympic trials, Lieutenant David W. Patton, 8th Infantry Division, was a finalist in the shot put at the Fifth Army Track and Field Trials



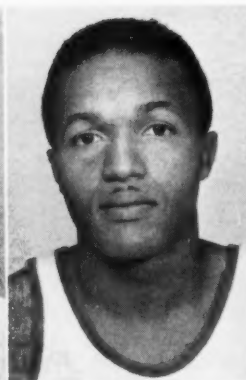
**PVT. GARY M. TOBIAN**  
Platform diver  
Silver Medal



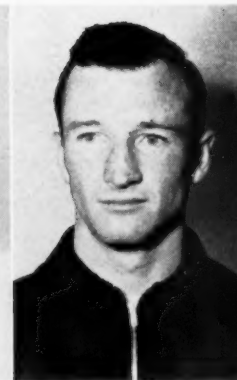
**PVT. K. C. JONES**  
Basketball  
Gold Medal



**SP 3CL ROBERT MILLER**  
Pentathlon



**PFC. LOUIS W. JONES**  
400m relay  
Gold Medal



**LT. PEARCE LANE**  
Welterweight boxing

## A few of the soldiers who were members

field of 611 rifle and pistol experts, representing Army commands throughout the world, participated at Fort Benning, Georgia, in the All-Army Rifle and Pistol Championship Matches. From this competition three members of the Army won berths on the U. S. Olympics Rifle and Pistol Team after trials at Camp Perry, Ohio.

**T**HE Army sports program is masterminded by a staff of seven, headed by Lieutenant Colonel Hugh T. Paris. As Chief of the Sports Branch, Special Services Division, The Adjutant General's Office, Colonel Paris explains that the purpose of the Army sports program is to provide an opportunity for all Army personnel to participate in athletics. The program itself is divided into three phases: instructional, competitive, and self-organized.

In the instructional phase, the individual is given basic and advanced instruction in a sports activity of his choice by the post sports personnel. These instructors may be members of the Army or civilian experts. Forty-five of the latter served gratuitously at twenty-four sports clinics in overseas commands this year.

Competitively speaking, the installation and major commands have established Army leagues and tournaments. These leagues give recognition to those athletes or teams which excel in their particular sport. The quality of per-

formance at an average installation, according to Colonel Paris, is comparable to an average college team. In individual sports, the outstanding athlete in the Army could hold his own in any national collegiate or amateur championship.

In the self-organized phase, facilities and equipment are provided at the installation for the leisure-time use of soldiers. Many Army athletes on the Olympics road to fame in some particular sport, utilized these facilities and this equipment to keep in top condition.

Entertainment of the troops by their fellow soldiers is a long-established practice and the athletic field is no different. In another direction, when the Army sports program is properly publicized it has a tangible effect on Army recruiting. Colonel Paris points out that athletes, about to be called for service, quite often choose the Army because of its well-rounded sports program.

**M**ANY outstanding Army leaders have recognized the value of a good sports program. General Anthony C. McAuliffe, former Commander in Chief, U. S. Army in Europe, said recently, "Sports taught me timing, coordination and self-confidence." Lieutenant General Blackshear M. Bryan, former Superintendent of the Military Academy, said, "Athletic training

helped me climb the hills of Korea and save myself for the ordeal at the top."

Lieutenant General Thomas W. Herren, commander of First Army, said: "You learn to think fast and under stress. This carries into the field and, when under stress, helps you to make instant decisions."

Such ringing endorsements of sports helps make the Army's sports program a success. Partial proof of its success came last winter when twenty-five per cent of the U. S. Winter Olympics Team were Army athletes.

In the 1955 Pan American Games, of the U. S. team, twenty per cent of the male members were from the Army while thirteen per cent came from the other services. The forty-three Army athletes won 22 Gold, 13 Silver, and 5 Bronze Medals.

Only on the distaff side is the Army short of Olympics aspirants. Aside from Olympics competitions, however, the ladies in Army uniforms are quite active in sports activities. There are three athletic events in the Army sports program for the ladies—golf, tennis and bowling—in which winners may advance to All-Army Championships. All three winners are awarded trophies named in honor of three outstanding women who have served in the Army.

If it were not for the Army sports program many men would never have had an opportunity to compete in the





LT. PETER RADEMACHER  
Heavyweight boxing  
Gold Medal



SP 3CL JOHN D. BENNETT  
Broad jump  
Silver Medal



LT. GEORGE VAN METER  
Bicycle racing



LT. PETER T. GEORGE  
Weight lifting  
Silver Medal

## of the U. S. Olympic team

Olympic Games. Although every effort is made by the U. S. Olympic Committee to give American athletes a try at the international competition, it takes time and money to reach the starting gate.

In the Army, however, the athlete gets his training generally as a part of his military education. By using his off-duty time in working out with equipment furnished him by the Army sports program, he can do very well indeed. If an Army athlete shows ex-

gets fine support at the command and installation level. This year saw the highest rate of participation by the major commands in the history of the program. Some sports, however, have gained in importance while others have diminished in popularity.

Just a few years ago, during the days of the horse cavalry, the U. S. Olympic Equestrian Team was composed almost entirely of Army members. This year, only one member of the Army won a berth on the U. S. Olympic Equestrian Team—and he failed to register in Olympics finals held earlier this year in Sweden (a national law forbids importation of horses into Australia).

**WHAT** is the sportswise trend today in the Army? Well, golf seems to be on the upswing and more and more tennis players are taking to the courts, available at almost every installation. Not only the courts, but tennis equipment is to be had for the asking. Golf, usually considered a "country club" sport, is today attracting soldiers of all grades and rank. Army dependents are also taking to the greens in ever-increasing numbers.

Baseball, softball, football and touch football attract large crowds of participants and spectators, particularly in overseas commands. Track and field events usually bring in more participants than spectators. Swimming is

popular. Less popular sports such as cycling, gymnastics and rowing are generally engaged in by those who participated in the sport in their civilian days.

The Army sports program gains its greatest momentum at installations where there are few, if any, recreational facilities in nearby communities. It is at these posts that the commander derives the greatest benefit from the Army sports program. One such installation is more than one hundred miles from a city of more than thirty thousand population, with only two small towns within a ten-mile radius. With bus transportation meager—and nowhere to go if there was a bus—soldiers of the post naturally turn to sports.

It is with these conditions in mind that Colonel Paris and his staff work day by day to help the field commander accomplish his mission. That the program has produced so many fine Olympics athletes is an added bonus that requires a lot of attention by the Sports Branch of Special Services. It works overtime getting the Army athlete to the right place at the right time to compete in Olympic trials. If any eligible hopefuls missed out it is probably their own fault. The widest publicity possible was given the trials by the Army.

This has been called the Golden Age of Army sports. To those who have



M/SGT HUELET (JOE) BENNER  
Pistol team

ceptional talent in some particular sport, he is given time off to perfect his skill. Representation of the United States by an Army athlete means *esprit de corps* for the troops as well as a high honor—an honor the Army strives to achieve.

The present Army sports program

taken a close, hard look at the Army sports program it becomes apparent that after ten years of intensive development it has achieved a high degree of participation by individual soldiers.

**T**HE Army sports program is aimed, in one sense, at physically conditioning as many members of the Army as possible—and keeping them in good condition through continuous sports activities. It cannot fully succeed in this end, of course, because some people simply don't like to participate in sports events. But the door remains open, and so long as it does, the opportunity exists for the individual soldier to better himself physically through the program.

From a financial viewpoint, the Army sports program is money well spent. The majority of funds used in support of the program comes from nonappropriated sources and not from the taxpayer's pocket. The appropriated funds—money authorized the Army by the Congress—are used largely for the purchase of athletic equipment and the construction and maintenance of athletic facilities.

From a strictly material viewpoint, what the Army gets for the money spent on the Army sports program can be seen most graphically when outstanding individuals and teams are selected to participate in interservice, national and international competitions. The interservice competition is normally conducted in individual sports, but during the Pan American Games and Olympic Years, this competition is also used as a means of qualifying individuals or teams to advance to the U. S. trials for selection of our country's representatives for these international competitions.

In certain sports, outstanding athletes are entered by the Army in National Championships. Through this competition many are selected to represent the United States on exhibition and good-will tours to foreign countries, sponsored by the National AAU and the State Department. Last year, the Army placed twenty-seven of its athletes on five of these tours.

Members of the four services have voluntarily contributed \$129,000 to the U. S. Olympic Fund to help defray expenses of our athletes competing in the Australian contests. Of this amount, \$43,000 was contributed by the Army.

Looking at the Army sports program from the viewpoint of the Olympic

Games, one gets a clearer picture of what has been happening during 1956. For example, the Army had its first All-Army Wrestling Team—thirteen matmen selected from seventy-nine applicants. Eleven new records were set at the 1956 All-Army Track and Field and Triathlon Championship Meet. Two hundred seventy-five athletes took part in the 1956 U. S. Olympic Track and Field Trials—twenty-five came from the Army while twenty-eight came from all the other services combined.

**I**n the Interservice Track and Field Championship Meet, Army won the majority of individual titles and the meet title. Again, in the Interservice Boxing Championship Meet Army boxers won the team title. The U. S. Olympic Boxing Regional Trials were likewise swept by Army boxers, who won half of the ten titles.

The Army sports program can be said to be helping produce a better Army. But it also sends soldiers back

to civilian life better equipped to deal with the problems of getting along in their communities. It teaches them fair play, gives them stronger bodies and minds, and therefore makes them better Americans. As most of them go into the Army Reserve upon leaving the Army, it automatically forms a stronger citizen army as a bulwark against possible aggression.

General Maxwell D. Taylor, Chief of Staff of the Army, summed up well the real intent of the Army sports program when he wrote in an open letter to members of the Army earlier this year: "It is a military duty for all officers and men to maintain a high level of physical fitness as a requirement of their profession. An Army man must be physically fit to perform his duties with maximum efficiency, either in peace or in war. He needs to be physically fit so that, by presenting the model of an alert, ready, fighting man, he will inspire confidence as a leader in his subordinates and as a guardian of the peace in his fellow citizens."

**Golf is becoming one of the Army's most popular games, engaged in by both sexes, all ages and all ranks**



THEY MAY BE DIFFERENT, BUT

# Armies Are Here to Stay

JAMES D. ATKINSON

*Those who assure us that "if  
we are capable of winning  
the big war, we'll also be able  
to take care of any little  
ones that come along," are  
playing with a dangerous cliché  
that won't stand rational study*

DURING the early part of the Second World War an American artilleryman pondered over the unfolding canvas of the great struggle then under way. In the best tradition of the American professional soldier he then wrote out for the *Infantry Journal* an analysis whose cogency hits us today like a hammer blow. For Lieutenant Colonel Thomas R. Phillips emphasized that "traditionalism and formalism . . . has been as frequent a cause of defeat as military incompetence . . . the only certain thing about war—the weapons with which it is fought and tactics adapted to the weapons—is change."

Yet only five years after these challenging words were written, the introduction of nuclear weapons into warfare developed a formalism which still threatens to freeze our thinking about warfare into as rigid a mould as the Maginot Line mentality of the period which Colonel Phillips surveyed. Civilians and military men alike were fascinated by the possibilities of this awesome weapon and many believed that armies and navies were immediately to be thrown into the scrap heap. Thus Sir William Beveridge wrote in the *London Times* of 14 August 1945 that "the atomic bomb has almost certainly relegated all other weapons of modern war—tanks, battleships, guns, rifles, and trained conscript masses—to the museum."

Some warnings against exclusive reliance on A-bombs were, however, sounded by the atomic scientists themselves. Dr. Vannevar Bush wrote in the *Washington Post* as early as 15 January 1947 that "if, as Heaven forbid, this Nation ever has to engage in another major conflict, we may be sure that it will have to exert the unified strength of all three arms—land, sea and air—that no one arm will do all the fighting, and, by the same token, that by no means all the fighting will be done by pushing buttons." But Dr. Bush's voice was that of one cry-

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Dr. James D. Atkinson, Professor of Political Science at Georgetown University, and member of AUSA's Advisory Board of Directors, recently served as chairman of a special group of political scientists, drafted by the House of Representatives' Committee on Un-American Affairs, to contribute to the Committee's important two-volume *Soviet Total War*.

ing in the wilderness, for louder and more strident voices proclaimed the dawn of a new era in warfare with armies made obsolete and navies rapidly following them into oblivion. Ironically, many of the members of that service which had been most forward-looking and most avid to avoid any tinge of "traditionalism and formalism" now embraced the new formalism of nuclear-or-nothing warfare and elevated it almost to the status of dogma. For a number of airmen, once the bold pioneers of new ideas and new techniques in warfare, now tended to become the traditionalists of the nuclear period. An earlier generation of airmen had both the courage and the vision to press demands for the rightful place of air power in warfare. But in the nuclear age it may be said with all fairness that many airmen became prisoners of the *idée fixe* of a bigger bang for a buck" and hence of a formalism which may be no less dangerous because it is "scientific."

#### The danger of megatons

Thus a distinguished Air Force officer recently wrote in *The Reserve Officer*: "In World War II we defeated the Axis powers by overwhelming them —by putting more men in a position to fight with rifles, tanks, ships and airplanes. Our military power was then roughly a matter of manpower and matériel. Let's compare this formula of operations with an atomic war. Here the chief measure of power would be megatons rather than in men and matériel. The decisive application of power would occur in the first few hours of the first few days of the conflict, not as the climax of several years of buildup behind the shield of holding actions. Now this does not mean that an atomic war would be short. No responsible Air Force spokesman has ever claimed that a future war would be short. We do say that the first phase, lasting only a few weeks, may well be the decisive phase, but the war could last much longer."

Thoughtful students will certainly agree that this view should not be completely disregarded with reference to a possible total atomic war in the future. There has been speculation, for example, that a "super" nuclear bomb with the fantastic power of 45 megatons (45,000,000 tons of TNT) is under development. Bombs of such a magnitude of destruction certainly present a "chief measure of power" in megatons. Yet side by side with such

developments as the 45 megaton bomb has been the development of an entire family of low-yield atomic weapons which *do not* have the vast, the appalling magnitude of destruction of the multiple-megaton bomb and which are ready to be used right now on the battlefield against tactical targets.

One of the foremost strategists of the present day, Lieutenant General James M. Gavin, has indicated what these low-yield nuclear weapons mean for the future of warfare: "Atomic weapons are here to stay. They will be refined in size and delivery systems until they will serve in every echelon of the military establishment. This is the inevitable course of the present development programs of all nations concerned with atomic energy."

#### Current military policy

The preoccupation of some theorists and planners with the "45-megaton" war has led to a formalism (and, indeed, almost a traditionalism) which blinds them to the immediate situation and hence to that military posture which is essential to America's defense here and now. This is, perhaps, a natural result of our own American character. We, as Americans, have the defects of our qualities, and one of those defects is the national characteristic of doing things in a big way, of shooting for all or nothing and hence an inclination towards the "go for broke" of either nothing at all or total, global nuclear destruction. That observant Scotsman, Professor Denis W. Brogan, accurately diagnosed this tendency when he wrote that "for Americans, war is almost all of the time a nuisance, and military skill a luxury like Mah-Jongg."

American military planners are competent and highly so. But we must be watchful lest the one-big-war idea makes us incapable of meeting current military requirements.

This raises the question of whether the United States will be given the choice of selecting the kind of war the one-big-war planners say we will have to cope with. President Eisenhower has said that "the threat to our security is a continuing and many-sided one. There is no single form of enemy action to which we could soundly gear all our defense preparations." In other words, we need to consider not only the possible things, but also the *likely* things which may now or in future threaten our security and we dare not be unprepared for those things. We

are not at all certain what future form of attack may be directed against the United States, but of one thing we may be sure: no country is going to give the United States\* the priceless advantage of telling us just what kind of war we can fight. Freedom of action is an old principle of war, but, however old, it has never been invalidated. And if our military posture is solely directed by "bigger bang for a buck" concepts we shall be committed to one and only one course of action and we will have lost our own freedom of action. The assurance that "if we can handle a big war, we can also take care of a little war," is a cliché which will not stand rational analysis.

Our military policy has provided the United States with a powerful air force, and no thoughtful person would deny the requirement for a powerful air force. What we need to guard against is not the tendency towards an ineffective air force, but rather towards a service which is so dominant that it will direct national strategy towards fighting its kind of war. We have also a powerful and modern navy although there are indications that some of our planners have downgraded the role of the navy in the future of warfare. Certainly with the vast Soviet submarine fleet, the increasing American reliance on water-borne commerce, and the freedom of action offered by carrier-based aircraft and guided missile ships, we can neglect future naval expansion at our peril.

#### The presence of armies

It is when we turn our attention to our ground forces, however, that the most challenging problems with reference to our military policy arise. For it is precisely in this nuclear age that armies are taking on greater significance than ever. This stems from a combination of factors. The development of nuclear weapons of greater and greater magnitude presents what Sir Winston Churchill has called a "peace of mutual terror." The 45-megaton bomb, in other words, has, ironically, not removed the *possibility* of a 45-megaton war, but it *has* very much reduced the *probability* of such a war. As important, however, as is this situation of mutual deterrence it is by no means the only factor at work which tends to increase the importance of armies as a vital part of our national security.

For today the struggle between the



Communist bloc and the anti-Communist world is a "war" in which ground forces, oftentimes by their mere *presence* in a certain area, play a significant role. The Soviet-Communist bloc has confronted the United States in a war of shadows—a foggy grey zone which veers sometimes towards the white of peace, sometimes towards the black of an open, declared war, but usually keeps in that shadowy middle ground of neither peace nor war. Captain B. H. Liddell Hart speculated (*The Revolution in Warfare*, Yale University Press, 1947) that "aggression is also likely to pursue an improved technique, designed to exploit weaknesses in the opposition while abstaining from such a direct menace, on an obviously vital issue, as to precipitate an all-out struggle." Both the Soviet and the Chinese Communist course of action in international affairs has followed the pattern of indirect, or nibbling aggression rather than the Hitlerian pattern of the reckless gamble. Secretary of the Army Wilber M. Brucker put the case in concrete terms when he said that "today we are engaged in a global cold war with the communist hydra which is *just as meaningful a conflict, and just as fraught with urgency, as if we were actually shooting it out with them*" [emphasis supplied]. Secretary Brucker's appraisal of the present "war" in which, whether we like it or not, we are engaged should cause us to make a careful examination of our Army in order to determine whether:

(1) It has sufficient manpower for the tasks which it may be called upon to perform under the impact of "global cold war";

(2) It possesses the requisite mobility through its own organic battlefield aircraft, airlift supplied by the Air Force, and sealift supplied by the Navy;

(3) It has sufficient scope for research, development and usage of the guided missiles required under modern conditions.

#### The 'war of shadows'

The "war of shadows" emphasizes our need for a hard-hitting, highly mobile, highly versatile army. The Communists, partially because of their predilection for conspiracy and underground warfare, partially because of the still unsolved weaknesses in their industrial and agricultural systems, tend to approach war in a way attuned to their historical past, to the writings

of their major "prophets," and to their long-term weaknesses. As Lenin said "to tie one's hands beforehand, openly to tell the enemy, who is at present better armed than we are, whether and when we will fight him is stupidity and not revolutionariness. To accept battle at a time when it is obviously advantageous to the enemy and not to us is a crime." Lenin's strategy has been given a very up-to-date touch by Party Boss Khrushchev's statement to the East German Communist Party that "we are in favor of a *detente*, but if anybody thinks that for this reason we shall forget about Marx, Engels, and Lenin, he is mistaken. This will happen when shrimps learn to whistle." Quite apart from the question of the deterrence of an all-out war through nuclear stalemate, Communist theory and practice both support the view that there is a much greater margin of safety in the operation of the war of shadows than in the all-out risks of large-scale war undertaken by the Nazis. Whereas Hitler, Himmler & Co. would gamble on global war, the Communists enter even such "undeclared" and limited wars as the Korean war with the possibilities of disengagement in mind and with the machinery for the exploitation of "truce talks," prisoner of war exchanges, and massive propaganda operations always at hand. Likewise the Soviet high command envisages the maintenance of large numbers of ground forces not merely from the standpoint of their actual employment in a declared war, but much more from the diplomatic and psychological pressures which can be generated by the possession of the capability to wage *all* types of war rather than the single concept capacity of waging the all-or-nothing war. Thus, through the possession of a *variety* of forces, the Communist bloc retains the all-important principle of freedom of choice and can elect to carry on a cold war of varying degrees of temperature.

Having these varied capabilities both as regards unconventional warfare techniques and as regards orthodox military forces, the Communist bloc can engage in limited wars or can exert pressure by threatening to do so. Congressman Charles B. Deane of North Carolina recently put the case regarding the possibility of Communist exploitation of limited war and of the use of military pressure when he said that "in the fall of 1949 and the

spring of 1950, our principal military experts agreed that any future war would be worldwide in nature and thus they had not plans for partial mobilization; and yet on June 25, 1950 . . . with a military budget based upon this total war concept, we were called upon to fight not a short total war with atomic bombs, but a limited war. . . ." We have little reason to believe, that, in future, the leaders of the Communist bloc will offer America a choice of weapons in the worldwide struggle which, now hidden as in the diplomatic maneuvering at Geneva and in the United Nations, now revealed as in the Korean War, in the fight for Viet Nam and for Malaya, goes on without ceasing.

#### Suez and American retrenchment

The troubled Suez Canal situation is in many ways a case history in the ever-changing and yet changeless role of ground forces. Without involving ourselves in the rights and wrongs of Suez, let's examine Suez as a *purely military lesson*.

The first lesson that can, it seems to me, be learned from the Suez crisis is the rather narrow and potentially dangerous concept of American withdrawal from positions around the world. What, it can be asked, is the relationship between the Suez Canal and American retrenchment? The relationship is this: The proponents of retrenchment argue that the United States is over-committed and that we should withdraw our forces to the United States and its possessions and possibly include a few other areas within a relatively narrow defense perimeter. This theory is presented with the thought that such a withdrawal will save both manpower and money, that ground forces are no longer important in any event, and that the forces of the United States are already dangerously spread thin over the world. Now, this military theory might have had some validity with reference to the manifestations of Japanese militarism or Nazi aggression of the 1930s, but it seems much less valid when posed against the strategy of the Communist bloc of the 1950s.

The British withdrew from the Suez Canal in 1954, among other reasons, because they were over-extended and presumably because, under the *supposed* war of the future, their position was indefensible. *Whatever* the supposition under which the withdrawal

was made, the Middle Eastern crisis which followed the forcible Anglo-French re-occupation of strategic canal zone areas demonstrated that it is a far more dangerous task—given the present world situation—to bring troops back to an abandoned position than to keep them there in the first place.<sup>1</sup> As the London *Tablet* pointed out on 18 August (well before the British-French landings), “there was a stronger case for staying than there is for trying to return, because the Arab states can be roused much more easily now by a violent repossession of the base than they were by our presence in continuation of a very long-standing practice.” It would be well to keep these words in mind when we read that economy, military efficiency, and the like dictate the whittling down of American ground forces from the various Communist pressure points around the world.

#### **Soviet pressure and propaganda**

Soviet pressure and propaganda is also given greater leverage in the case of re-occupation. Soviet propaganda began a drumfire against Britain and France long before they had made any actual move against Suez. Thus the Moscow Radio on 16 September 1956 charged the British and French Governments with embarking “upon the path of military preparation” and this is but a mild sample of the intensive propaganda directed against Britain, France and the West, in general, after the actual operations against Egypt had begun. This illustrates the nature of Soviet unconventional warfare. Soviet propaganda against Britain and France reached a crescendo at the very moment when Soviet forces were drowning Hungarians in their own blood.

#### **The role of intent**

Suez highlights still another lesson of the present “time of troubles” for Western civilization. This is the role of intent in the present “war.” For the contest today between the Communist bloc and the United States as the leader of the free nations is, above all, a struggle based on what are *believed to be the intentions* of the United States

<sup>1</sup>It is also interesting to speculate on the possibility that the British were unable to bring the Suez re-occupation to a quick conclusion because their ground forces were inadequate for the task. The London *Economist* stated on 1 September 1956 that “it seems all too evident that although Britain’s contribution to the great deterrent has not been starved of money, the economies have fallen fatally on the conventionally armed force in being.”

as understood by the Communist powers. Hence the United States commitment of ground forces around the world is significant not only in the strict military sense but much more as a symbolic gesture of American *intent* to halt aggression. As Secretary of the Army Brucker so stated on 5 June 1956: “Our troops abroad constitute visible evidence to the leaders of the communist conspiracy that we mean exactly what we say—that we steadfastly intend to resist aggression in any form. In the future, there should never be an occasion for an aggressor to explain that he ‘misunderstood’ America’s position. The presence of our troops standing guard along the frontiers of freedom in Europe and Asia stimulates the morale over there and stiffens the resistance of our friends. It is a constant reminder that we’re in this together. It proves our determination to see it through together, and constitutes a powerful deterrent to any aggression.”

#### **American armies are the key**

America’s probability of holding her present allies as well as the possibility of gaining associates in the future may well be determined by the interpretation which the nations place on the continued presence and, indeed, the *re-enforcement* of American ground forces throughout the world.

The uneasiness felt by Chancellor Adenauer concerning the possibility of American reduction of troops in Western Europe is illustrated by the anxious inquiries made by the West German Foreign Minister, Dr. von Brentano, at the recent meeting of the Western European Union. The New York *Times* reported that the meeting had been called at the request of the Bonn government which was “greatly concerned about reports that the United States and Great Britain” were considering reductions in their ground forces stationed in Europe. That this concern was real is illustrated by the action taken, twelve days later, by the Bonn Cabinet to shorten the West German draft from eighteen months to one year. According to the New York *Times*, the Chancellor indicated that the reason was because of the impact on West German opinion “of recent reports indicating that the United States military chiefs were considering a reduction of United States forces abroad.” What clearer warning does America require that, if we want to preserve NATO, our attention be directed to-

wards indicating American *intent* to make it a real, viable force by bolstering its ground forces?

When we turn to Asia there is much evidence to suggest that, as a symbol of America’s *intent* to resist the onward march of communist aggression, no truer and tested measure has yet been found than the presence of the American soldier. This has been confirmed by no less a person than a Marshal of the Chinese Communist army. Speaking on foreign policy to the Eighth Congress of the Chinese Communist Party, Deputy Premier Marshal Chen Yi said, on 26 September 1956, that “recently, a section of the ruling circles in the United States has begun to agitate for a reduction of the armed forces and the adoption of a more realistic attitude toward international affairs.”<sup>2</sup>

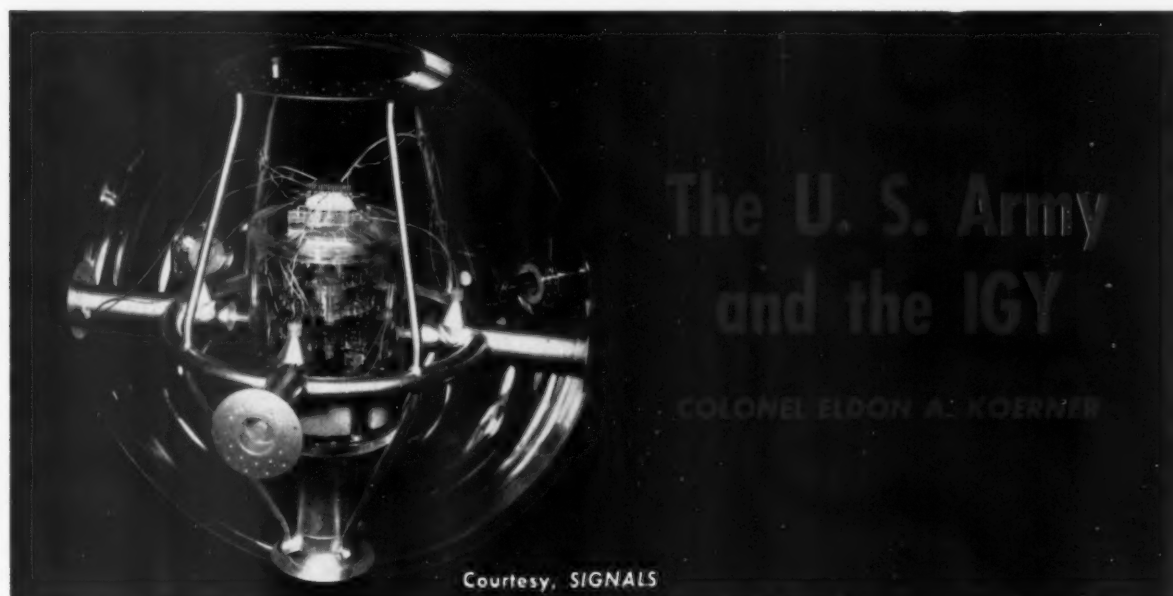
Whether we look West towards NATO or East in the direction of Communist overtures to Laos and other Asian countries, the case for the importance of the propaganda by deed which is furnished by the American soldier—on the ground in *any* threatened area—was never more important than now. As General Maxwell D. Taylor has said “the presence of American troops along the Iron and Bamboo Curtains . . . is a constant reminder to any potential aggressor that he will be met promptly by the American soldier, . . . No armed aggression has been initiated within range of U. S. Army guns, wherever stationed.”

#### **The Future of armies**

From those pleurably ancient times when some irate Roman Senator wanted to know why the Roman generals didn’t have a secret weapon to stop Hannibal’s elephants, down to our own day, the history of warfare has been a history of change. Those nations which have succumbed neither to military formalism nor to reliance on a single-weapon strategy, have fared best. Armies today—and in future—are not obsolete. Instead, they are in a period of flux. From this present period of change will emerge armies as different from their World War II prototypes as the World War II soldier was different from one of George Washington’s Continentals. But whatever the form or the content, *armies* will remain.

<sup>2</sup>The phrase “more realistic attitude towards international affairs” is a Communist euphemism which, translated, means willingness of the West to retreat.

From the days of Lewis and Clark through Adolphus W. Greely, the U. S. Army has always had pioneers who would boldly penetrate the far frontiers in search of knowledge of man's world and the universe. So too will the Army contribute to the International Geophysical Year. In return it will receive vital scientific information plus experience in the administration and logistical support of research and development projects of great magnitude



UNITED STATES ARMY participation in the coming International Geophysical Year has a firm grounding in history. In 1881 Lieutenant Adolphus W. Greely led a U. S. expedition into the Arctic to establish one of the chain of international circumpolar meteorological stations for the First International Polar Year of 1882-83. This was the expedition that nearly met disaster; when rescued in 1884 only seven of the original party were still alive.

Fifty years later, in 1932-33, the U. S. Army participated in the Second International Polar Year by helping establish the College-Fairbanks Polar Year Station in the interior of Alaska not far from the Arctic Circle. The Army Signal Corps established the communications which connected the new station to other IPY observation facilities, and furnished radio equip-

ment used by the station in its observation of the effects of radio transmission.

Scientists of the world have been linked together not only by these joint efforts, but also more formally by the International Council of Scientific Unions (ICSU).

In 1951 ICSU established a Comité Spécial de l'Année Géophysique Internationale (CSAGI) to plan the new International Geophysical Year. Considering the reversal of the seasons at the poles, CSAGI determined that the IGY would cover the period from 1 July 1957 to 31 December 1958, during which the participating nations would conduct the most detailed study to date of the geophysics of the earth and its atmosphere and its sun.

Our U. S. National Committee for the IGY (USNC-IGY), has been established in the National Academy of Sciences and is headed by Dr. Joseph

Kaplan of the University of California, Los Angeles, an internationally known geophysicist and astrophysicist. The USNC-IGY has set up a number of coordinating committees and thirteen Technical Panels, each of the thirteen to be concerned with one of the major research areas or to a means of accomplishment in the research areas, all of which together make up the U. S. program for the IGY. The three "means" panels are "Rocketry," "Earth Satellite Program" (which Dr. Kaplan, a high fidelity music fan, has called the LPR or Long Playing Rocket Program), and "World Days and Communications."

Early in 1954, the President and the Bureau of the Budget approved participation in the IGY program by executive branch agencies, and the first increment of the budget for the U. S. portion of the program, to be administered by the National Science Founda-



tion, was appropriated by Congress. The Assistant Secretary of Defense for Research and Development designated his "Coordinating Committee on General Sciences (CCGS)" as the prime Department of Defense coordinative unit for the parts of the scientific program of the IGY in which Defense has an interest." The Secretaries of the three departments were requested to have their operational and logistic agencies work with CCGS "to the end that the Department of Defense can successfully cooperate in this important geophysical research effort." CCGS established thirteen IGY Inter-Service Task Groups, each with a member from the Army, Navy and Air Force, and each the "opposite number" of a USNC-IGY Technical Panel, for the closest possible coordination (see chart).

#### **Army organization for the IGY**

Subsequently, the Department of the Army established a DA-IGY Planning Group with the responsibility of coordinating the interests of the Army in the IGY program. The chairman of this group is Dr. James B. Edson of the Office of the Chief of Ordnance. He reports the activities of the Group to Brigadier General Theodore J. Conway, Army member of CCGS, and works very closely with Dr. L. S. Wilson, who acts on IGY matters for General Conway. (Dr. Wilson's "everyday" assignment is as Chief, Geophysical Sciences Branch, Office of the Deputy Chief of Staff for Research and Development.) Dr. Edson is also a member of the DOD Working Group on IGY for the joint planning phases of the program.

It would be well at this point to delineate the various areas in the IGY program and give some details of Army participation in each of them.

#### **Aurora and airglow**

Aurora and airglow occur at about 36 miles altitude and higher and appear as light emitted by atoms and molecules of the atmosphere which are in the path of the stream of ionized particles which flow from the sun. Both aurora and airglow are known to affect radio communications. Spectroscopic, visual, photographic and radar observations will be utilized by about 80 stations suitably located to reveal, along with other data, the extent, duration and movement of individual auroral displays and the possibility of simultaneous occurrence in the Arctic and Antarctic. Army participation is by the Signal Corps through contracts with the University of Alaska and Cornell University, both of whom are being subsidized also by the National Science Foundation for IGY programs in this field.

#### **Cosmic Rays**

Cosmic rays have been known for fifty years, but where they come from and their precise nature has remained uncertain. They are known to consist largely of streams of electrically charged particles, possessing both mass and energy, and it is suspected that they might indicate the existence in outer space of fantastically high energy potentials. Observers working at a network of stations on land and sea will utilize instrument-carrying balloon and rocket flights made simultaneously from different latitudes and longitudes to measure variations in mass and energy of

primary cosmic radiation particles, fluctuation in the intensity of cosmic radiation, and the relationship of this intensity to the geomagnetic equator of the earth. Ordnance rocket firings and Signal Corps meteorological balloons will gather much of the data desired.

#### **Earth Satellite program**

The Earth Satellite program calls for the launching of research satellites into orbits around the earth. This pioneer effort involves engineering problems of considerable magnitude. The program includes major logistics contributions from the Department of Defense, particularly in the development of the launching rockets, the actual launching of the satellites, and related support facilities and assistance, and was set up in DOD as Project VANGUARD. The Navy has the management responsibilities for the contributions of the three military departments to the satellite effort. Dr. John P. Hagen, normally Division Director, is now VANGUARD Director, and coordination of the satellite scientific program is under Dr. Homer E. Newell, Jr. Contracts have been issued by the Navy for the development of the rocket vehicle, designs have been completed and construction is under way.

VANGUARD will be a three-stage finless rocket with an overall length of 70 feet, maximum diameter of 45 inches, and weight at takeoff of 22,000 pounds. The satellite will be attached to the nose of the third section. Once the satellite reaches orbital altitude (200-300 miles) and is pushed to orbital velocity (18,000 miles per hour) by the third-stage rocket, it must be precisely separated from the burnt out rocket both mechanically and physically in space. Three problems which appear not yet completely solved are the rise in skin temperature to approximately 1000 degrees F caused by friction during the passage of the rocket vehicle through the atmosphere, the necessary extremely accurate control of burnout time of stages 1 and 2 and the physical separation of the satellite from the burnt-out third stage. Search for solution to these and other problems yet remaining could delay the firing of VANGUARD No. 1. Dr. Alan T. Waterman, Director of the National Science Foundation, announced in June 1956, that the satellite firings would be limited to "six earnest tries," as did also Dr. C. C. Furnas in a September 1956 address to the American



**Colonel Eldon A. Koerner, Signal Corps**, was commissioned in the Infantry Reserve in 1930 from the University of Dayton, Ohio. He came on active duty in February 1941, was transferred to the Signal Corps and integrated into the Regular Army in 1947. During World War II he was a zone commanding officer and later Director of the Signal Corps Inspection Agency. Following a tour as commander of a signal heavy construction battalion in Korea, he attended the Advanced Signal School and the Advanced Management Program at Harvard Business School in 1949. Then came three and a half years as Deputy

for Inspection, Signal Corps Supply Agency, and another year and a half in Korea, finishing as Deputy Signal Officer, Eighth Army. After graduation from the Industrial College of the Armed Forces in June 1956 (where he wrote a 28,000-word term paper on "Research Into Artificial Satellites of the Earth"), he was assigned to the Army General Staff in DCS Logistics.





Brig. Gen. Theodore J. Conway



Dr. James B. Edson



Dr. L. S. Wilson

Rocket Society. Both Dr. Furnas and Dr. Hagen, in other addresses in late September, cautioned against over-optimism regarding the results to be obtained and the probability that all these six would be completely successful, in view of the many mechanical and scientific problems facing these pioneer satellite efforts. One committee has stated that "restoration of the six tries or rounds is necessary for an adequate scientific program and to fully 'capitalize' auxiliary expenditures."

The first satellite will be a magnesium sphere measuring 20 inches in diameter and weighing approximately 21½ pounds. About half of this weight will be required for the internal structure, shell and external attachments, and the other half will be left for the scientific instruments, including the radio telemetering system. The Army Signal Corps has had approved a cloud Albedo or brightness experiment and the Army Ordnance Ballistics Research Laboratories an Ionosphere Propagation experiment. Periodic review of these

priority assignments will be made in light of progress made on implementation of the various experiments.

Elements of geophysical research possible using the satellite include gathering of data on cosmic rays, ultraviolet and x-rays, solar activity, upper atmosphere densities, aurora and air-glow, precise earth mapping and determination of the variability of the earth's gravitational field, and geomagnetism. Dr. Waterman believes that "it is quite possible that some of the unexpected things we learn may prove to be of far greater significance than those we anticipate." DOD, as a matter of national policy, is carrying out Project VANGUARD as a service to the scientific user agency, the USNC-IGY, and therefore in general the research results and data on the satellite instrumentation and ground acquisition equipment will be made available to all the nations participating in the International Geophysical Year effort.

Six Minitrack stations, to be used to track the satellites and acquire data

from them, utilizing radio transmissions from the satellite, are to be built in Central and South America and one is to be built at Ft. Stewart, Georgia, all by the Corps of Engineers. Sites in Central and South America have already been selected by the Engineer Corps utilizing their existing membership in the Inter-American Geodetic Survey. Construction is to start, as soon as funds become available, under the general supervision of the CG, USAR-CARIB. Communications between these sites and the already existing Minitrack sites at Blossom Point, Maryland, San Diego, and Antigua are being provided by the Signal Corps. A VANGUARD Digital Computing Center will be located in Washington, D. C., to collect tracking and other data from the various observing and tracking stations around the world.

The prototype Blossom Point station will be used to evaluate components of the Minitrack system, to train the operating crews for the other tracking stations, and to test the Mark II Minitrack System (intended for construction and use by radio amateurs for satellite detection and tracking). The Signal Corps has developed dual Passive Tracking Systems utilizing their "Diana" moon radar alone and in combination with an optical station of their design. The Engineer Corps is to make attempts to illuminate the satellites in flight by use of high intensity searchlights associated with optical acquisition equipment. The Ordnance Corps at the Ballistics Research Laboratories has in development an Optical Acquisition and Tracking Station which appears to have considerable acquisition value. The Chief of Naval Research

#### USNC-IGY Technical Panels and DOD-CCGS-IGY Interservice Task Groups

(U. S. Army will participate in programs appearing in capital letters)

AURORA AND AIRGLOW	LONGITUDE AND LATITUDE
COSMIC RAYS	METEOROLOGY
EARTH SATELLITE PROGRAM*	Oceanography
Geomagnetism	ROCKETRY
GLACIOLOGY	Seismology and Gravity
IONOSPHERIC PHYSICS	Solar Activity
WORLD DAYS AND COMMUNICATION	

\*Even though the Navy has prime coordinating responsibility for this DOD program, Army and DOD Interservice Task Groups have been organized and are functioning.

invited the Army Chief of Research and Development to participate in the development, establishment and operation of a complementary acquisition and tracking system for the satellite, and the above proposals by Signal Corps, Ordnance and Engineers have resulted.

Some such system must be utilized to locate and track the satellite in case of failure of the Minitrack electronic transmitter in the sphere itself!

Additional construction and other "bits and pieces" for VANGUARD are being provided by the Army:

Signal Corps—Radio beacon design  
Ordnance Corps—Doppler System Transponder, explosively expanded antenna, and ballistics consultations  
Engineer Corps—Map service, data on orbital coverage, and construction of the assembly building and the launching site in Florida for the rocket vehicle.

The Signal Corps has solar battery developments under way and hopes to power future models of the satellite with them.

#### Geomagnetism

The main effort in this area is a series of experiments designed to yield more facts about the rapid fluctuations in the earth's magnetic field and their causes (believed to be solar outbursts). No Army participation is planned.

#### Glaciology

Glaciology studies will be made at various points in the Northern Hemisphere and the Antarctic, and to a lesser degree in the Western United States, Alaska and portions of the Arctic. Nourishment and wastage, volume and extent, structure and variations and internal thermal conditions of glaciers, land ice sheets, shelves and caps and sea ice will be measured and studied. A concentrated effort will be made to assemble in a usable form the scattered results of previous such studies and interpretation of available air photographs of such ice conditions. The Snow, Ice and Permafrost Research Establishment (SIPRE), of the Corps of Engineers is to do some large diameter (4 inch), deep core drilling (1000 to 1500 feet), of land and shelf ice in the Antarctic in the IGY and will analyze the cores obtained and the holes resulting therefrom. Such drilling has never before been successfully accomplished by any of the nations participating in the IGY. The equipment and techniques required were success-

#### Nations Participating in IGY

(As of September 24, 1956)

Abyssinia  
Argentina  
Australia  
Austria  
Belgium  
Bolivia  
Brazil  
Bulgaria  
Canada  
Chile  
Chinese Peoples Republic  
Colombia  
Czechoslovakia  
Denmark  
Dominican Republic  
Ecuador  
Egypt  
Finland  
France  
Germany (Federal Republic)  
Germany (Democratic Republic)  
Great Britain (U.K.)  
Greece  
Hungary  
Iceland  
India  
Indonesia  
Iran  
Ireland  
Israel  
Italy  
Japan  
Mexico  
Mongolia\*  
Morocco  
The Netherlands  
New Zealand  
Norway  
Pakistan  
Panama  
Peru  
Philippines  
Poland  
Portugal  
Roumania  
Spain  
Sweden  
Switzerland  
Tunisia  
Union of South Africa  
Union of Soviet Socialist Republics  
United States  
Uruguay  
Venezuela  
Vietnam  
Yugoslavia

\*Participation indicated but not yet officially confirmed.

fully tested by the Engineers to a depth of 1000 feet in Greenland in the summer of 1956. SIPRE will conduct a Polar Glaciology School in Greenland this year for selected U. S. personnel and scientists from Argentina, Chile, Denmark, England, France, Germany and Switzerland under actual conditions of living and working on an ice cap. These trained scientists are then scheduled to go to the Arctic and Antarctic for observations during the IGY. The Engineer Corps will supply glaciological equipment to U. S. groups in the Antarctic, blueprints and specifications for glaciological instruments to foreign IGY groups, and glaciological instruments on loan to various other IGY groups. The Quartermaster Corps is involved in the clothing and food problems of the U. S. personnel involved in the activities in the polar regions, as are the Signal Corps with the communications problems and the Transportation Corps with the personnel and material transportation problems.

#### Ionospheric Physics

Ionospheric Physics efforts of the IGY will greatly increase the number of ionospheric sounding stations (by about 50 percent). These will be used to determine the distance of the ionosphere above the earth, thickness of the layer of rarefied gases of which it is composed, and variations in its effect upon radio propagation. Such soundings have never before been made in the Antarctic region where the sun is absent during the long winter months. Since it is believed that solar radiation is the principal agent in breaking up the sparse atoms of the atmosphere at ionospheric heights, it is going to challenge scientific theory if normal ionospheric conditions are encountered. Measurements of the ionosphere will be concentrated in the Polar regions, around the Equator and in three longitudinal belts. The Signal Corps will utilize new and existing radio circuits to check ionospheric interference and will expand its Ionosonde facilities in the United States, Alaska, Okinawa, Greenland, Newfoundland and Florida.

#### Longitude and Latitude

Since we do not know exactly how far apart the continents are or the exact location of certain islands, observations for the more precise determination of longitudes and latitudes will be made at 20 stations around the world during

the IGY. Using radio sightings of the satellite and simultaneous photographs of the moon and surrounding stars by a dual rate position camera—holding the moon's position fixed—from a number of the stations, greater accuracy in station location and therefore coordinate determination will be obtained. The Army Map Service of the Corps of Engineers is participating in this program from stations in the principal island groups in the Pacific.

### Meteorology

During the IGY almost 60 stations will be established in the Antarctic and sub-Antarctic waters. These, combined with other stations in the Southern Hemisphere, will provide adequate meteorological coverage of the Southern Hemisphere for the first time and among other things, permit us for the first time to prepare daily weather maps of Antarctica. In both the Northern and Southern hemispheres, emphasis will be placed on such meteorological measurements to heights of 100,000 feet. Balloon-borne radio weather instruments will measure and report pressure, temperature, humidity and winds. True information on the three-dimensional structure of the atmosphere is needed for improved long-range weather predictions. Some Rawinsonde equipment and recorders will be supplied by the Signal Corps, but most of the actual measurements will be performed by the Weather Bureau.

### Oceanography

The objectives of the IGY oceanographic program are to measure the motion of the waters at depths in the oceans and to establish continuance record of the changes in sea level over the course of the years at island stations. There is no Army participation in this program.

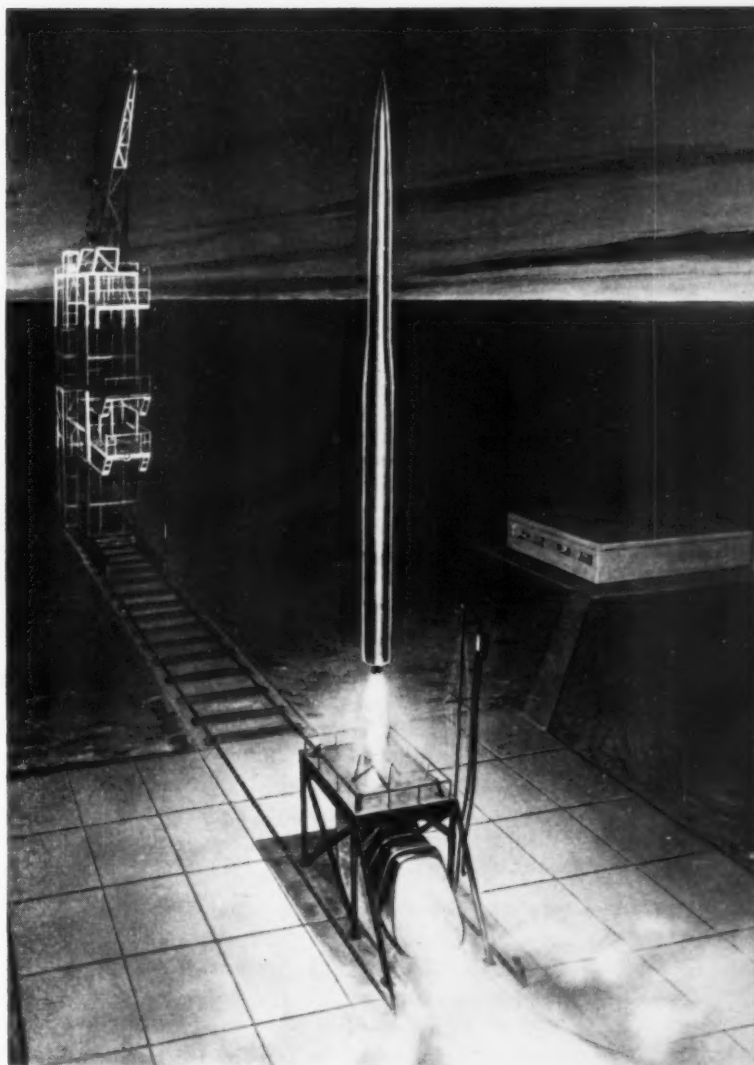
### Rocketry

A variety of studies will be undertaken in the U. S. IGY rocketry program. Investigation of the structure of the atmosphere will include measurement of pressure, temperature, density and winds. Special instruments will be used to measure the chemical and ionic composition of the atmosphere. Particles and radiations from the sun will be observed and measured. These upper atmosphere factors have an important effect upon radio transmission, high-altitude flight and navigation, and longer-range weather forecasting. Some 200 research rockets will be fired dur-

ing the IGY, with about 20 additional test rockets to be fired before the IGY begins. Most of the rockets will be instrumented for multiple data acquisition, so that the 200 rockets will perform 452 different experiments. A major concentration of the U. S. rocket effort will be centered at Ft. Churchill, Canada, almost on the Arctic Circle above Hudsons Bay, and in a locality of high auroral activity.

The Army Engineers Task Force 87, commanded by Lieutenant Colonel Clayton B. Lyle, performed an outstanding accomplishment in moving from Fort Belvoir to Fort Churchill, Canada, in March of 1956 and in five

months, under the most adverse sub-arctic weather conditions, building the IGY Rocket Firing Facility. Snow on the ground until the end of May, 3 to 5 feet of permafrost, 325 out of 550 men new to the organization, 11½ miles of Arctic road to be built, 361 railroad cars of material and equipment to be unloaded and used, temperatures ranging from plus 20 degrees to minus 26 F, a tower foundation requiring drilling 5½ feet deep and 50 feet diameter through hard Churchill granite, working with open cab construction equipment, wind chill conditions almost to the point where the human skin would freeze in one minute if



Looking something like a caliber .30 round, this is an artist's conception of the three-stage launching rocket

exposed, only 12 days possible to work in each of the first two months, but they got the job done on schedule. On the 30 October 1956, Lieutenant General James M. Gavin, Chief, Army Research and Development, formally dedicated the Fort Churchill Rocket Firing Facility. The cost for establishing and operating the Facility will be borne by the Department of Defense but the actual cost of the rockets to be fired for the IGY will be borne by the USNC. A very special IGY Sounding Rocket Unit (Provisional) of about 80 persons to be under the Ordnance command of Lieutenant Colonel Lloyd G. Smith of the Ballistic Research Laboratories at Aberdeen Proving Ground, is being organized for the Fort Churchill mission. It will have in it a Communications, Radar and Meteorological Data Sub-Unit from the Signal Corps, Supply and Ballistic Instrumentation Sub-Unit from Ordnance and a Rocket Handling and Firing Sub-Unit from the Navy. The Canadian Army and Defense Research Board are lending assistance and will attach liaison personnel to the Unit. After the end of the IGY, the range at Fort Churchill will have continuing value as a defense post in the Arctic area and as a valuable Arctic research tool.

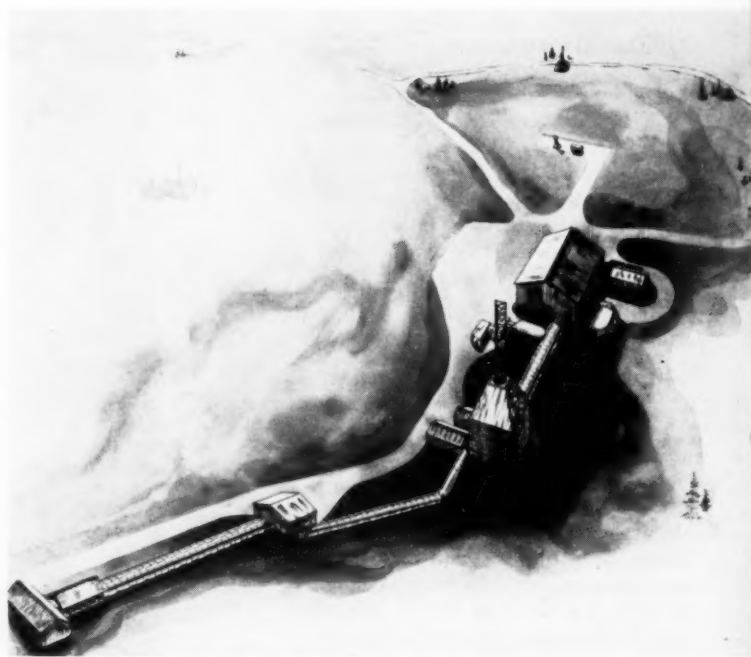
#### Seismology and Gravity

Seismology and Gravity will be studied in the more remote regions of the earth; and measurements of gravity (the pull of the earth) will be made in areas where such observations are now lacking (particularly in the Antarctic). Seismic ranging by use of

ground shock will be used to trace faults in the earth's crust. No Army participation is involved in this field but some support may be given.

#### Solar Activity

An intensive photographic patrol will be made for solar flares with new instrumentation in addition to the basic patrols carried on by the existing solar laboratories. No Army participation or support is involved in this area of research.



This is the Army's Fort Churchill Rocket Firing Facility as conceived by an artist. It was recently dedicated by Lt. Gen. James M. Gavin

#### World Days and Communications

During the IGY there will be four types of specifically selected World Days or series of days on which special observing programs will be scheduled:

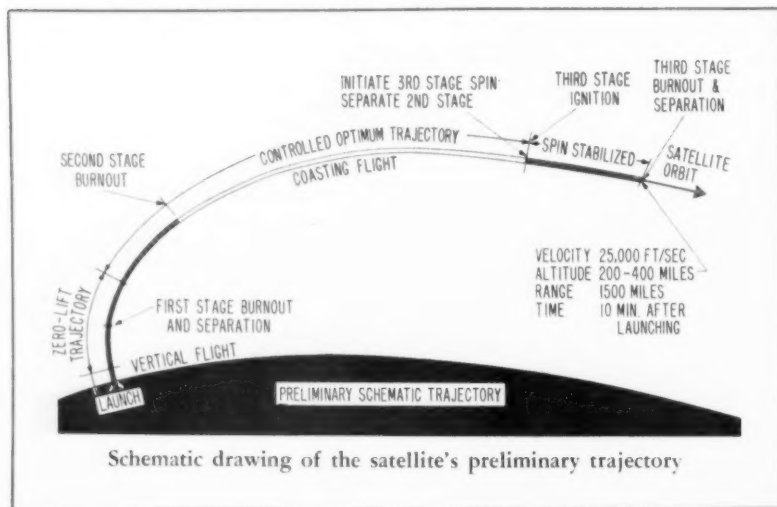
**Regular World Days (RWD)**, three or four per month, selected long in advance. These will include two days at new moon, two days at full moon and days when prominent meteor showers are expected.

**Alerts** will be broadcast world wide when observation of unusual activity on the sun indicates high probability of a solar "flare" and of terrestrial disturbance.

**Special World Intervals** to be called on 24 hours notice by the World Warning Agency in the National Bureau of Standards Radio Forecasting Center at Fort Belvoir, Virginia, when a strong geomagnetic disturbance is expected.

**World Meteorological Intervals (WMI)** of ten consecutive days in each quarter. These will include the days of solstice, about June 22 and December 22, and equinox, about March 21 and September 23, and also three Regular World Days.

The Signal Corps will transmit these signals world wide to all Army IGY participants for follow through on the scientific requirements.





## The formidable problem of R & D logistics

Eventually a hard look will have to be taken at the overall planned US-IGY program. The IGY has given the scientists and researchers marvelous opportunity to turn theories into facts and dreams into actual data. They have been able to think up far more projects than it will probably be possible to accomplish in the eighteen-month period, considering the time factors and budgetary and logistics problems involved. In contrast, the logisticians have not fully realized that Research and Development logistics are much like combat logistics in that the supplier has to meet the demand suddenly under conditions which cannot always be clearly foreseen. An evaluation will have to be made of the relative scientific value of each of the planned projects and decisions reached on practical limitations to be applied to the schedule. Some indication that this rationalization is getting a start is the June 1956 announcement that only six satellites would be launched during the IGY, instead of the twelve to twenty originally planned. Operations must begin, the hard tough "slugging away" work, for it is in the success of positive accomplishment that we will achieve international prestige for our US-IGY program.

**D**R. Edson has stated that "Modern research demands leadership, complex organization, training, discipline, perseverance in the face of failure and confusion, often the courage to meet real and deadly dangers. These are all traditionally military virtues." "Army participation in the IGY can be expected to:

- 1. Prove amply justified by the return of scientific information of great value to the Army.
- 2. Significantly extend and strengthen the Army's peacetime role in the service of the Nation.
- 3. Provide strenuous Army practice in the essential new arts of research management and research logistical support in this era when Army mission competence depends essentially upon Army leadership in applied science."

The scientific information obtained by this participation will add to and strengthen the great mass of geophysical data already accumulated by our Army scientists and researchers.

"Guideposts" to new paths for their inquiries will be found. Eventually in the future, this can mean that:

(1) The Army and its men and equipment can operate on, in and/or under the ice and snow of the Polar regions and the sub-Arctic with comfort and efficiency.

(2) Continuously effective radio communications schedules will be established between all Army locations on the earth.

(3) Minutely exact maps of the surface of the world with its seas and lands will be available for use by all the services.

(4) The Army can show the world the way to tap unlimited energy potentials of solar radiation and the source of cosmic rays for the use and benefit of mankind.

(5) Adverse geomagnetic, auroral or ionospheric conditions, recognized, measured and adjusted for, shall no longer interfere with aircraft guidance and control systems.

(6) Extreme weather conditions, such as tornados, hurricanes and flood-

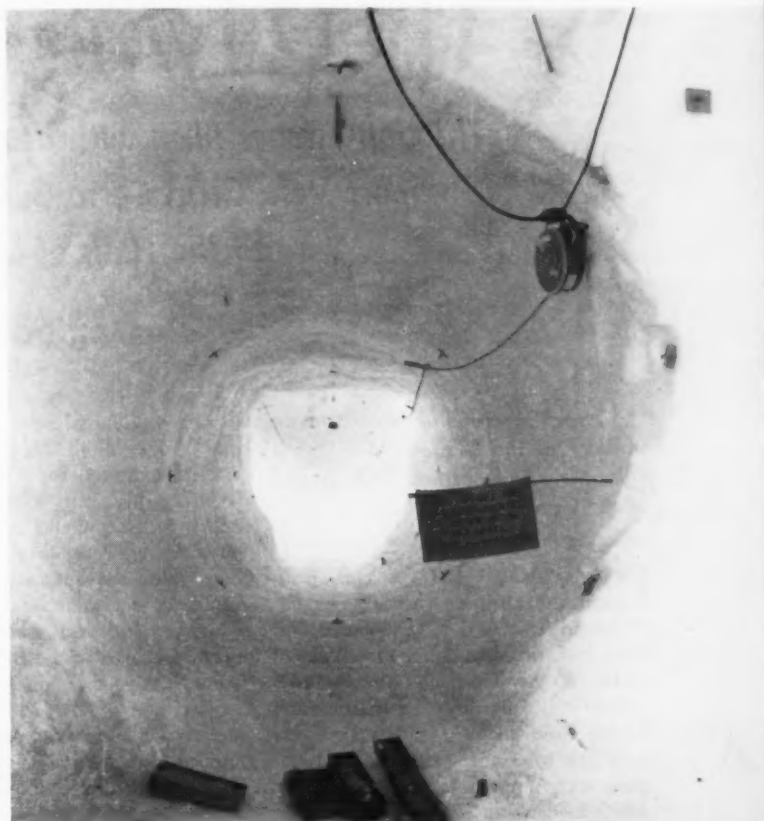
ing rain clouds, can be observed when forming at their sources, traced and forecast far in advance of their arrival at any particular location, with control of size and direction of movement becoming more closely possible.

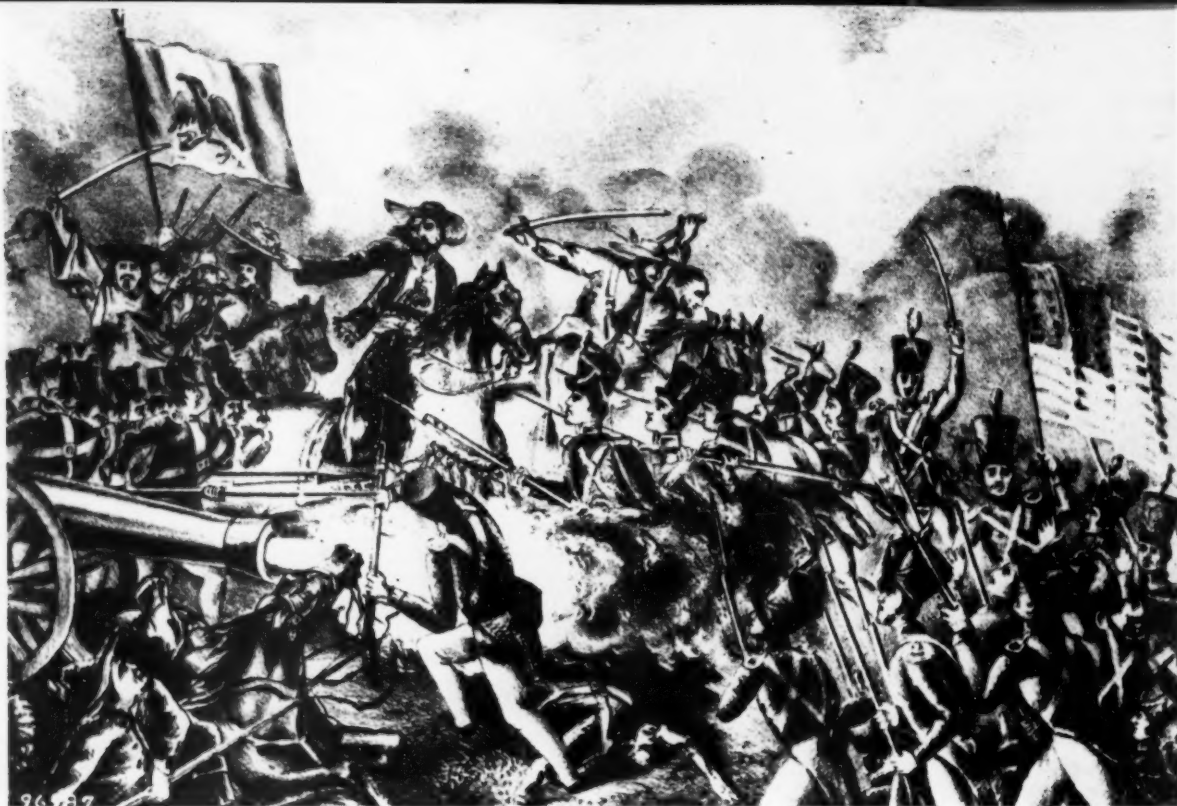
(7) Earth-circling satellites, unmanned but bearing power and relay equipment and antennae, will relay television transmissions and telephone or teletype messages around the world.

(8) Vigorous and systematic use of Army capabilities in scientific research will become an even more essential aspect of our service to the nation.

In the eyes of the world today, science is the key to power. Our national welfare and survival may well depend therefore upon how completely our Army researchers and scientists can learn to take advantage of the mysteries of the earth and the atmosphere and the sun. They must use their knowledge to assist in building and supporting a new kind of world, one in which mankind will benefit from, not be destroyed by, the advances of science.

Tunnel dug into the snows of Greenland by Army Engineers penetrates to snow that fell in 1916





The battle of Cerro Gordo opened the way to Mexico City

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# The Flying Batteries

*Through ditches filled with dead they fought their way  
past Vera Cruz, Cerro Gordo and Churubusco  
to the Halls of Montezuma*

**FAIRFAX DOWNEY**

*This is the second of two articles on artillery in the Mexican War, taken from Mr. Downey's new book, Sound of the Guns.*

**I**N early March 1847, a U.S. fleet, escorting transports carrying General Winfield Scott and 10,000 officers and men, hove off Vera Cruz. Troops gaped at the mighty Castle on the point of a long reef, guarding the mast-crested harbor, and took in the walled city and the nine forts ringing it. Ramparts were known to be defended by 4,000 men, with 200 or more cannon.

Doubtless General Scott over there on the bridge of the flagship, spyglass leveled, expected those strongholds to be taken by storm. Grim looks were exchanged: it would mean a sizable butcher's bill, and they would pay it. Nor would they put it past Old Fuss and Feathers to order the works assaulted in full dress uniform.

On 9 March whaleboats, low in the water with loads of infantry, marines, artillerymen of the 2d and 3d Artillery carrying muskets, sped ashore. The landing was virtually unopposed. Naval guns shelled lancers hovering in the background, and mountain how-

itzers and rockets of Captain G. H. Talcott's battery spurred their flight. No sortie was made out of the city to seize a golden opportunity to back the invaders into the sea. More troops landed. Captain R. E. Lee began constructing earthworks and gun emplacements 700 yards from the city walls.

Since the siege train had not yet arrived, General Scott—it came hard to an old artilleryman—was compelled to ask the Navy for heavy guns. He could have them, he was told, providing they were manned by their own crews. Three long 32s and three huge 68s were ferried to the beachhead,

hoisted up on improvised sling carts and hauled to the emplacements, where Lee set grumbling sailors to strengthening the earthworks. Jealous artillerymen, watching the bluejackets station themselves at the breeches, were consoled when four 24s, two 8-inch howitzers, and seven 10-inch mortars were brought ashore and turned over to them.

**G**ENERAL SCOTT'S urgent offer to the garrison of Vera Cruz and its foreign consuls to permit the evacuation of women and children was summarily refused. He ordered the bombardment opened.

Roaring cannon pounded the city and the castle, as bands aboard ships played "The Star-Spangled Banner." Rockets spiraled into the city and the past lived again for veterans of 1812. They would be fired again on other battlefields but discarded shortly after this war, for the advent of rifled cannon and recoil mechanisms rendered them obsolete until more powerful charges and other new features restored them as a World War II weapon.

Mexican cannon boomed in counter-battery. While some were old pieces, beautifully embossed and inscribed, others were modern, including a number marked, ironically, "W.P.F." (West Point Foundry) and sixteen long British 32s, which American artillery officers would acclaim as the finest ordnance they had ever seen. Shells whistled down on Lee's emplacements, screeching like northerners. One of the first killed Captain John R. Vinton by the blast of its passage alone; it did not explode. (Charge drawn, it was sent home to mark his grave in Providence, Rhode Island.) Others detonated to blow holes "big enough to bury a horse," or pulverized stone walls of a cemetery near a naval battery. The bluejacket commander, his crews unharmed, apologized to Lee for complaining about all the dirt shoveling. It had come in handy.

Only the long-dead were victims of shelling which smashed the cemetery's chapel, burst open tombs and scattered skulls and bones. Better-directed fire achieved little more than ripping sandbags and rawhide facings of embrasures. Some shells that fell within the position failed to burst; when they did, they caused few casualties.

The American cannonade told a different story. Steeple bells were set

clanging as spires crashed. The earth quaked under the impact of projectiles from the ponderous 68s and big mortars. Supposedly bombproof roofs became no more than tissue paper, domes and houses crumbled and flamed up in pyres. Lee's face was grave with pity as he directed fire. He knew that not only enemy troops but women and children, condemned by the arrogant refusal of the garrison commander to send them to safety, must be dying under that storm of iron.

Ramparts of Vera Cruz were illuminated like Fort McHenry's by "the rockets' red glare." Night and day cannon thundered. Veterans of Monterey muttered against Scott's method of reducing a city with artillery; they had brought it off virtually without siege guns. Scott, who might have answered that he did not intend to pay the price they had, except as a last resort, ordered heavier fire. A hurricane of shell, which would rise to a total of 2,500, demolished most of the enemy batteries and leveled all the southwest quarter of the city. Then a white flag was hoisted.

After three days and nights of bombardment, Vera Cruz surrendered on 29 August, at a cost of 100 American casualties, of whom 19 were killed. As the Stars and Stripes were hoisted over the castle, the garrison filed out, laid down its arms, and was paroled. On 8 April, Scott, in haste to avoid the impending yellow-fever season of the coastal region, thrust into the interior, driving for Mexico City.

**S**ANTA ANNA, vaunting Buena Vista as a victory, was down from the north. His heavily reinforced army of 12,000, astride the National Road, barred Scott's advance from Vera Cruz. Thirty-five Mexican cannon were emplaced on Cerro Gordo (the Big Hill), on a lesser height to its right and between the two eminences, with more at the Mexican camp. Flanks were protected by the Rio del Plan, by unscalable cliffs, and by impassable ravines.

To dislodge defenders from so strong a position seemed an impossible task, but brilliant reconnaissances by several American officers found a possible route of attack which would avoid frontal assault. Captain Lee's daring scout took him behind the enemy lines where he barely avoided capture and probably death by hiding for hours behind a log, with Mexican soldiers

seated on it. Over the approach he had discovered around Santa Anna's left he guided a column of infantry and artillerymen. Wooded defiles masked them but afforded the toughest sort of going. Through oak forests, chaparral, and cactus, axmen hacked a path for the guns of Magruder's company of the 1st Artillery. It paused on the brink of slopes so steep that the strongest wheel horses, straining back against their breeching, could not have prevented carriages from overrunning them. Cannoneers fastened long ropes to axles, laid hold and eased the vehicles down behind the teams. Now ascents, some of them almost sheer cliffs, confronted them. Halt, unharness, ropes again. Crews at the top, heaving mightily, hoisted up guns and carriages while horses, climbing like mountain goats, were led up angled declivities. These were not light mountain howitzers being brought into action, but three heavy 24-pounders. It was a tremendous feat, which a report quoted in the 1st Artillery's history thus modestly understated: "It may be proper to add that the difficulties of getting the artillery over the hills of Cerro Gordo were great."

**T**HE guns were in position and opened fire when a premature attack by blustering Brigadier General David E. Twiggs carried two hills with losses that need not have been suffered had he obeyed Scott's orders and waited for the general assault. However, though Santa Anna had been alerted to the threat on his flank, the main attack on 18 April 1847 swept forward steadily against the Mexican left and rear. During the night artillerymen had sweated their guns up still another summit, Atalaya, where a rocket battery joined them. Supporting bayonet charges, they pounded enemy infantry and gunners until they broke in frantic flight. Dragoons and Duncan's light battery galloped in pursuit of disorganized masses. A few salvos from the guns cleared a battlefield where 3,000 prisoners, 4,000 stands of small arms, and 43 cannon were the fruits of victory.

The crippling of the Mexican army at Cerro Gordo appeared to have opened the way to Mexico City. Puebla and its 75,000 inhabitants fell easy prey to the American advance, but there circumstances compelled a month's halt.

Time was almost up on twelve-



month enlistments of seven volunteer regiments. Unpaid, miserable in tentless camps, many men were sick, hungry and in rags. Foragers were caught by the lassos of Mexican irregulars and killed. General Scott sent the volunteers back to the coast on their homeward way, though it whittled his army down to less than 6,000. Meanwhile, Colonel Ethan Allen Hitchcock of his staff organized the highly useful Spy Company, composed of Mexicans under bandit chieftain Manuel Dominguez and officered by Americans. Acting as couriers and penetrating enemy lines and Mexico City, they brought back valuable information.

On the arrival of General Franklin Pierce with reinforcements, along with a siege battery, Scott, his strength raised to 14,000—though many soldiers were still on the sick list—resumed his march.

Athwart Scott's line of advance to Mexico City lay not only the Mexican army but a prehistoric barrier: a vast expanse of lava anciently erupted by Popocatepetl, the Blazing Star, towering on the horizon 18,000 feet above the sea, and by its consort, Iztaccihuatl, the Sleeping Woman. The jagged edges of volcanic rock cut boots to shreds, and its treacherous fissures broke horses' legs.

Reconnaissances by Lee and P. G. T. Beauregard found a mule path across that pedregal, as it was called, a path which pickaxes of pioneers widened into a road. But that avenue of approach was well guarded. A column moving along it was confronted by a fortified camp, garrisoned and flanked by masses of infantry and cavalry and covered by twenty-two guns.

**F**OR American artillery, coming into position under the slight protection of a transverse ledge, the pedregal proved a place of death and destruction. Magruder's 6-pounders, along with mountain howitzers and rocketeers, opened fire on 19 August and drew devastating blasts of counterbattery from the enemy heavies, some of them 68s. The men in blue stood to their guns. "Prince John" Magruder, tall, blond and handsome, was as tough a battery commander as the Army ever saw. A star in amateur theatricals, he directed fire with the same dramatic intensity he played leads in camp shows. Well-drilled crews responded with steady efficiency, two of the sections commanded by Lieutenant Thomas Jack-



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With their own and captured artillery, they smashed Molino del Rey. This was the beginning of the end for Chapultepec

son, the future "Stonewall," whose gallant performance on this day would be recorded by William L. Haskin, the 1st Artillery's historian. But the guns could not open a way for an assault. One cannoneer after another fell until fifteen were killed and many wounded. An 18-pounder shell smashed the axle of one piece, and soon a second was knocked out. For three bloody hours they maintained the unequal duel at 900 yards. Then, all but put out of action, they withdrew in the gathering darkness.

The end of the first day of the Battle of Padierna (or Contreras) left Scott's army in almost as critical a situation as Taylor's in the first phase of Buena Vista. Brought to a standstill, the Americans were far from their coastal base of supplies. They must keep that lifeline open by advancing, or retreat to defend it.

As at Cerro Gordo, a flanking movement furnished the key to victory. Cloaked by a black, rainy night and under covering fire by the half-crippled artillery, General Persifors Smith led a brigade through a ravine around the enemy's left. While the enemy was diverted by a feint at his front, Smith's infantry, followed by Captain Simon Drum's battery of the 4th Artillery, burst out on their rear. More blue troops rushed up from Padierna to catch defenders between two fires. Santa Anna's army disintegrated, its rout swelling to panic proportions, with lancers riding down a screaming mob of

infantry, camp women, and laborers and herds of stampeding mules. Two Mexican 6-pounders, their gunners said to have been chained to their pieces, alone held their ground and kept firing.

**T**HAT pair of bronze cannon looked familiar to keen-eyed Captain Drum and his men closing in on them. They must be the two taken at Buena Vista from another battery of their regiment—O'Brien's Bulldogs. Instantly Drum limbered up and signaled the gallop. In a hell-for-leather charge, the regimental standard streamed from its staff in the stirrup socket of its bearer, riding boot to boot with the driver of the lead pair of the first gun team. A volley of grape swept the standard bearer out of his saddle, but Lieutenant Calvin Benjamin caught the flag as it fell. As the head of the column crashed into the Mexican position, Drum vaulted from his mount to lay hands on the trophies.

Word of the recovery of O'Brien's Bulldogs brought soldiers from every quarter to cheer with the artillerymen. General Scott himself rode up, joined in with hearty huzzas and promised that the Buena Vista guns would be given to the 4th Artillery "in perpetual token of its achievement."

Custodian for the regiment today is the Military Academy, where they flank the portal of the Administration Building, imbedded in masonry. Upon a plaque with an eagle crest the muz-



zle-loaders are inscribed:

O'BRIEN  
"Lost without  
dishonor at the battle  
of Buena Vista, by  
a Company of the  
4th Artillery.  
Recaptured with  
just pride and  
exultation by the  
same regiment at  
Conteras."

WINFIELD SCOTT  
DRUM

That morning's swift and spirited attack had won a tremendous triumph in only seventeen minutes. It netted twenty-two cannon, a large supply of invaluable ammunition, and many horses and mules. In the blue column, pushing forward on the last lap to Mexico City rolled a new battery organized by Scott's order. Its guns were O'Brien's Bulldogs.

**A** HARD core of veterans of the Mexican Army quickly rallied. At Churubusco they occupied a highly formidable position, a veritable hedgehog. By-passing it appeared to be risky in view of Scott's tactical situation and the fact that he was still opposed by an enemy strength of 16,000, estimated by him at a considerably higher figure. "To have taken the capital without first defeating such a force would have been a barren victory and perhaps a dangerous one." Since Santa Anna was retiring with his main army, Churubusco would prove to be a rear-guard action but a desperate one. The President-General had ordered it held to the last to cover his retreat.

Access to the town was by a ditch-flanked causeway leading to a fortified bridgehead, which protected a stone span across a canalized river. An assault successful in carrying those cannon-swept approaches must still storm the massive walls of the Convent of San Pablo and those of a church and its garden. Churubusco (derived from the Aztec "Place of the War God") now justified its name in a bloody battle where "the Mexicans fought as they had never fought before" and American troops displayed the headlong valor of Monterrey.

Old regiments of Regular infantry, adding to laurels of 1776 and 1812 by smashing attacks on the causeway, met volleys of musketry and a cannonade that drowned the music of a Mexican band. The withering shell fire that

mowed them down was evidence that they were facing expert gunners. So also was the deadly accurate shooting that caught Duncan's light battery, trotting forward to support the drive by flanking fire. Sections, mired down in soft ground on both sides of the highway, were mercilessly pounded by a bombardment that exploded two caissons. As Francis E. Taylor's guns moved forward to support infantry in the cornfield, it was deluged by the severest shower of musketry, grape, canister, round shot and shell the brigade commander, General Smith, had ever witnessed. Though two officers, twenty cannoneers, and fifteen horses were hit, pieces served as if at drill. Taylor, shifting position to sweep sharpshooters from the roof and walls of the church, suffered further heavy losses.

There was no cover. Proved true that day was a maxim of later wars: "A battery seen is a battery lost." Yet the almost sacrificial gallantry of the gunners could not open the way for the infantry. "Even the artillery, backbone of the army, failed now."

For the Americans, as at Buena Vista, were facing the San Patricio Battalion's expert gun crews. In their hands, as blue assault waves beat against the bridgehead, cannon became sniping weapons, with the turncoats taking particular satisfaction in spotting former officers and cutting them down with blasts of grape and canister. To the Red Company's guns was attributed a large portion of the considerable American losses: 137 killed, 879 wounded, 40 missing.

**A**T last the defense of the approaches collapsed. Field pieces were manhan-

dled up into the infantry lines and shelled the town from the bridgehead. On the highway two of Duncan's guns, coming into action against the convent, "fired with a judgement, rapidity, and accuracy that delighted onlookers." But that stronghold was defended with the utmost desperation by the San Patricio renegades, aided by an élite Mexican regiment. There was no thought of surrender among the turncoats, who could feel the hangman's knot at their necks. Thrice they shot or sabered comrades who attempted to raise a white flag.

Scott's Spy Company, joining the final rush, flung themselves on the San Patricios in a hand-to-hand melee. Such was the grim ferocity of that conflict that it was remembered by Cadmus Wilcox above all the bitter battling as evidence of "the odium attached to treachery, even among traitors." Finally the remaining turncoats, their ammunition exhausted, were overpowered. Seventy-five survived out of a battalion of 260; the rest, except for some who escaped, lay dead in the uniform of Mexico. "Give me a few hundred more men like Riley's," Santa Anna said, "and I would have won the victory." In San Angel, suburb of Mexico City, stands a cross in memory of the San Patricio Battalion. It is fittingly marked with a gamecock, dice, and skull and crossbones.

**M**EXICO City in its gorgeous setting of broad valley, sparkling lakes, and towering mountains, spread before the invaders as the final, tempting prize of a long, hard-fought drive. Swiftly admiration gave way to grim forebodings. Monterrey, Vera Cruz,

#### Storming the fortress of Chapultepec

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and Churubusco had presented no obstacles comparable to the redoubtable defenses of the capital. Artillery officers scanned them through spyglasses, choosing positions, estimating ranges. Molino del Rey (King's Mill), reported to be an arsenal and cannon foundry and rumored the first objective, showed clear in the field of vision. It would take heavy guns to breach its thick masonry. Those causeways, highways and aqueducts, offering avenues of attack, were certain to be swept by shell fire and musketry. Passage would take a bloody toll of infantry advancing over them, and batteries galloping into action would lose men and horses. Yonder loomed the mighty Castle of Chapultepec upon a ridge rising two hundred feet above the city. Plunging fire from its embrasures on troops struggling up to assault was unpleasant to contemplate. Each of the city's close-packed houses was a potential fortress, and rooftops and steeples vantage points for sharpshooters covering the streets. Dominating all rose the crenelated walls of the Citadel where once stood the storied Halls of Montezuma. Some three hundred years before, Cortés had held, then yielded them to Aztec siege and, retreating over a causeway, suffered the grievous slaughter of the *Noche Triste*. If the forthcoming assault failed, a Night of Sorow might also befall the Americans.

Before the opening of the battle on 8 September 1847, many a soldier in Scott's army sat down to write his last letter home.

**F**OR the bombardment of Molino del Rey, Captain Lee sited the gun positions as well as any Regular artilleryman could ask. Twenty-four-pounders boomed above the bark of the Bulldogs, Drum's now by right of recapture. Terrific converging fire smashed them back. The Mexican artillery, though it had lost one of its top outfits in the San Patricios, was still excellently served. Nevertheless storming infantry dashed forward, with Drum, back in action, supporting them until their advance masked his fire. Deep ditches filled with dead, but the mill was carried, and enemy guns were turned on their fleeing crews.

Now 8- and 10-inch shells from howitzers and mortars, again placed by Lee, burst over Chapultepec in a fourteen-hour cannonade. They silenced neither the Castle's heavy ordnance nor a field piece which joined

it to decimate an infantry regiment advancing over a causeway. A courier on a lathered mount dashed back to Magruder's battery with an urgent request for support. "Prince John" snapped an order to one of his lieutenants: Mr. Jackson would take his section and clear the way.

The young officer mounted and rode forward toward a brevet for gallantry. From the minute his galloping guns came within range he ran a gantlet of fire from the Castle's artillery and the field piece slamming away from behind a sandbag barricade. He dared not leave the road—mud would mire his carriages hub-deep. He kept on until shells blasted him off, one gun smashed, drivers and teams tangled in a struggling, bloody welter. Surviving cannoneers hit the ditch except for one sergeant. Jackson and the noncom ran to the remaining gun and opened fire.

**C**ADETS at Virginia Military Institute, sitting in class before their professor of artillery and military tactics a decade later, would strive to imagine that stirring scene. It was hard to visualize dour, religious Major Jackson as that dashing young lieutenant. Picturing it would come far easier to artillerymen in the Valley Campaign. Jackson, they knew, expected as much of them as he had demanded of himself.

Under the enemy's massed fire, Jackson and his sergeant stood to their gun. Had Lieutenant Barnard Bee of the infantry, fighting in another part of the field, been near the road, he might then have bestowed his accolade "Stonewall" of First Manassas. An order from General Worth to withdraw drew the cool reply from Jackson: Give him fifty men and he would capture the barricade.

Up galloped Magruder with the rest of the battery. His horse was shot under him, but he swung clear as it fell and brought his guns into roaring action, joining Jackson's and its rallied crew. As their shells deluged the Mexican piece, infantry stormed the breastwork, and the way was open.

Assault troops, rushing across a mined field before it could be touched off, drove ahead. A column under Worth and Quitman's division closed in on the Castle of Chapultepec. Artillery fired over their heads as they climbed the rocky slopes. Drum and Benjamin abandoned their beloved Buena Vista guns for heavier ones, an 8-inch howitzer and 16-pounder, to

breach the walls. Infantrymen poured through the gap, while others planted scaling ladders. Shoved back, toppling with their loads of men, raised again, the ladders were held steady at last. A freshet of blue surged up them and over the parapets. Bullets and bayonets broke the final fierce defense of brave young cadets of the Castle's military school and other remnants of the garrison.

As the Eagle and Snake banner of Mexico was lowered from Chapultepec's tower, a moment of high drama was enacted on the hill of Mixcoac, commanding a full view of the city. There on a gallows were fifty of the condemned San Patricios. They watched the Stars and Stripes soar aloft and flutter from the Castle's staff. With their last breath in a shout that was heard across the valley the turncoats cheered the flag they had betrayed.

Thrusting into the city, in close support of the infantry, artillery toppled walls and blasted barricades apart. Jackson battered down the San Cosme Gate. Bayonets paced the guns through streets whose stubborn defenders obeyed Santa Anna's furious orders to resist to the last. Several of the heaviest dams were burst by two officers who were not artillerymen. Grant and Raphael Semmes, later a daring raider in the Confederate Navy, mustered crews to manhandle mountain howitzers up into belfries. The deadly fire they poured down on rooftop snipers and enemy massed behind barriers cleared a passage that could otherwise have been won only with severe loss.

**T**HE ramparts of the Citadel, still to be taken, were a ring of flame. Its cannon thundered at the blue tide which lapped its base, smashing a redoubt. Along with the onrush of infantry stormers, Lieutenant Henry J. Hunt galloped his light gun over the last 150 yards. Though almost every man and horse was hit as he unlimbered, he and cannoneers still on their feet shoved the piece forward until it was muzzle to muzzle with an enemy gun in an embrasure. The future Chief of Artillery of the Army of the Potomac fired first and blew the enemy weapon and its crew to bits.

A white flag. Muskets clattering to the ground. Cannon stilled to sullen silence. Santa Anna, declaring that honor had been satisfied, withdrew from the city. It was the end.

# New Methods of Management

**COLONEL FRANK KOWALSKI**

**M**AN does not easily accept changes in accustomed ways of doing things. The general staff system, for example, was forced upon the Army over bitter opposition. Today, there are many in the service who are skeptical about the Army Command Management System.

This resistance to management and administrative change is difficult to understand in the light of the eagerness with which the Army seeks technological innovations. New vehicles and new weapons are the accepted pattern of things. No one gives a second thought to the discarded items, for in technology there can be no adherence to tradition or emotional ties of the past. This is because in technology we can easily measure the advantages of the new over the old.

Changes in management philosophy are not so easily evaluated. The advantages of a new management system may be apparent only at national level. The individual at the installation, on the other hand, can see only the added costs required to develop data and reports which may be of little value to him and his associates. No one has bothered to explain to him the reason for the change, and so for a great variety of personal reasons he cannot accept the new concepts.

It would seem appropriate at this time, when so many new business tools and techniques are being introduced

**Colonel Frank Kowalski, Jr., Infantry,** Commandant of the Army Command Management School at Fort Belvoir, wrote "Command Development Through Decentralization" in our September issue.





into the Army, that we examine what is necessary to get commanders, troops and civilian employees to accept advanced management and necessary administrative changes.

**F**IRST, we should look at the elements essential for acceptance; secondly, the factors that influence resistance; and thirdly, some means of preventing or decreasing opposition.

Our military installations cannot be managed by dispatching the customary five-paragraph field order. The principles of leadership are the same, but you cannot effectively administer a post of forty thousand troops, civilian employees and dependents in the same manner as you would direct a corps attack.

#### **It takes more than an SOB**

The basic difference between tactical operations and management is the degree and frequency with which command is applied to the situation. In both operations, the leader must get things done through people. In a tactical situation, he depends upon the disciplined execution of his orders. The overriding principle of timing which governs surprise, movement and mass permits little opportunity in combat for lengthy discussions and explanations. The individual must be responsive to the will of the commander immediately and without question. He must be prepared to sacrifice his life, if need be, to advance the objectives of his unit. And so, as one of our combat leaders has said, "When they have a tough job, they send for an SOB." This is sometimes necessary in management, even in industry and business. Usually, however, the alert leader in a nontactical situation should have few emergencies and little need for issuing autocratic orders. He places greater reliance on understanding and acceptance of what has to be done.

In following this thought through, it is significant that even in battle, real authority comes from below rather than from the top. A company commander has the built-in authority of his rank and position, but his men will follow only if he enjoys their respect and acceptance, which is the real authority. And so, directing action by issuing an order does not necessarily assure its execution. The order may be misunderstood, in which case it cannot accomplish what the leader wants. Or, in

fact, it may be understood, but if it is not fully accepted it will not be efficiently and effectively carried out. This is, of course, true in battle as well as in management.

#### **How to win subordinates and influence opinions**

Proceeding from this premise, it is apparent that any change involves carefully prepared action by the leader and favorable reaction by those who must get things done. Accordingly, it is not enough to conceive a new idea. Special attention must be given to the preparation of the organizational climate for its acceptance. Two major principles in this area are worthy of serious consideration:

(1) Acceptance can be stimulated to the degree that individuals are encouraged to develop their own understanding of the need for the change.

(2) Those in authority can further stimulate acceptance by knowing how people feel about the change and by showing a willingness to do something about those feelings.

Philosophically, we do not live in one world. Each person has his own complex structure of intelligence and emotions. And so, to reach the worlds of your key subordinates, you must get on their wave lengths. This cannot be done without conscious effort on your part. Their acceptance will be increased if the individual:

- ¶ Understands what has to be done and the reason for it;
- ¶ Believes the change is consistent with the mission of the Army and the objectives of his organization;
- ¶ Believes it to be compatible with his personal interests;
- ¶ Is able mentally and physically to comply with the change.

Despite best-laid plans and most careful preparation of the organizational climate for acceptance, there are still people who will resist change. They may be classified as those who resist for materialistic reasons, and those who cannot accept a new idea because of psychological or emotional make-up. In both categories, there are as many reasons for resistance as there are people. Here are some of the most common reasons:

- ¶ The individual may be naturally conservative, and is constitutionally opposed to changes.
- ¶ He may be afraid that his security or job is threatened. In this category are those who fear the unknown.
- ¶ He may have been instrumental in establishing or maintaining current procedures and techniques, and so he has a personal pride in the way things are being done.
- ¶ He may be complacent, weighed by inertia, or simply lazy.
- ¶ He may not be convinced of the merit of the case.
- ¶ He may consider the rewards inadequate.
- ¶ He may lack understanding because of immaturity or inexperience.
- ¶ He may lack the desire or the ability to take a risk.
- ¶ He may have a chip on his shoulder.
- ¶ He may be right in opposing the change.

It is difficult to know when resistance is working, as there are few identifiable landmarks. When it is working something happens which seems to leave an organization at dead center. The situation becomes static. We may disturb this equilibrium temporarily by increasing the pressures, but in time, pressure increase will be met with increased resistance or more adroit op-

"It is difficult to know when resistance is working"





position. The negative resisting forces can be removed if we are aware of the feelings of people and sincerely try to do something about those feelings. The problem here is to encourage subordinates to communicate, not only their recommendations, but their feelings.

### Getting off dead center

There are three kinds of people: those who enjoy satisfaction in what they are doing; those who receive their satisfaction away from their work; and those who fall in between the two extremes. In the first category are the Einsteins, the artists, and the dedicated. Each gets his satisfaction from his own goals. We don't have to worry about these fortunate people.

The average person enjoys the major portion of his satisfactions off the job. Satisfaction may come from our pay, which permits us to raise a family, buy a car, go fishing, grow roses, or whatever else it is that interests us most.



The matter of personal interest and satisfaction plays an important role in production and particularly in accepting change. In the diagram above I have tried to illustrate the conflicting forces which motivate most of us. The goals or objectives of an organization are shown at G and the satisfactions of the individual at S. In the general condition S does not coincide with G. To fulfill the goals of an organization, the individual has to perform a specified amount of work. Depending upon the individual and the drives within him, he has varying degrees of interest in the organizational goals. In the extreme case, all he wants to do is to get to S as fast and as easily as possible. He tries to move along the straight line. The problem the manager faces is to cause the individual to climb the stairs to G before he can reach S. This requires considerable effort and ingenuity on the part of the manager.

The leader's philosophy of management or command determines his actions, and his actions determine the climate of his unit. If the leader encourages initiative and creative thinking, the unit will show imagination. If he is interested in the feelings of the people in his unit and does some-



"Your job as a manager is to get people to do things"

thing about those feelings, there will be understanding, acceptance and co-operation.

In our traditional approach to get things done we have secured acceptance, cooperation and the executive force of discipline by appealing to man's sense of duty, loyalty and patriotism. These are the spiritual forces that motivate the dedicated. In war these forces fire the imagination and the energies of the soldier. The sacrifices of one man stir the hearts of the nation. These must continue to be the forces that motivate our whole Army. But the man in the Army today, whether military or civilian, is not a soldier in battle. While the war-inspired motivations must be kept alive, the average man and his family in the Army respond to the same desires and influences that motivate his fellows in business and industry.

But what do you do when, despite your best planning and explanations, an individual still fails to produce, or opposes change? You can issue an order to get the job done. In some cases this may be necessary and desirable. But he may be resisting for some good reason, or at least he *thinks* he has a good reason. I would suggest that before issuing an autocratic directive you talk to him and try to reach his world in a friendly discussion. Explain to him what the change, objectives or goals are, and show him why these are necessary. Encourage him to unload his fears, uncertainties or inhibitions. Find out how he *feels* and *why* he feels that way. Try to remove the cause of resistance. Identify his goals with the objectives of the organization. Encourage him to participate in the build-up of the new program. (It is important to remember that people will support what they help to create.) Be patient

and never forget that your job is getting things done through people.

### How to wear a hair shirt

It would seem that this kind of treatment would get the devil to go to church. This is not so. There are people who may understand a program completely. They may know why the program is necessary and clearly see the advantages that will accrue to the organization and to themselves. Despite this, they will "drag their feet." These are the "hair shirts." Such a man is usually secure in his job. He may even have worked hard all his life. Although he has the ability and know-how to do a bang-up job, he is just tired.

Now what do you do?

You can transfer him up, down, or even out. This you may be required to do as a last resort, but your job is to get the maximum effectiveness out of people. The following method has worked: Develop with the individual the whole range of his responsibilities and functions. After these have been jointly agreed upon, ask him to establish his own performance standards. Require him to meet these standards. If you permit him to do less, you are agreeing to his inadequacies.

Fundamentally, there is a need in the Army for a belief in the philosophy that nothing can be static in this dynamic world. We must learn to regard our administrative tools, procedures and techniques with the same forward look with which we view our changing weapons. There can be no sacredness about organizational structures or systems. And even today, as we proceed with the installation of the Army Command Management System, we must continuously seek new and better ways of managing our operations.

# THE MONTH'S CEREBRATIONS

## THE PROBLEM OF CAREER NONCOMMISSIONED OFFICER PROMOTIONS

SERGEANT BEN MOSKOWITZ

THE current system of allocating non-commissioned officer promotions has been a headache for some time. While it would be wrong to impugn base motives, there is no getting away from the fact that the system is not good enough.

In the days before Korea, a man was tested, efficiency rated, and promoted against Army-wide vacancies. That was good, at the time, and made for a stable career program. Korea changed all that, and there has been nothing to indicate that the Army is going to change its present system.

Under current policies, DA each month passes down to army commanders a number of promotion allocations based upon budgetary and strength-ceiling limitations. Army commanders spread these out proportionally, according to the number of men in each unit eligible for promotion. Under this system the best-qualified men in the units receiving allocations are probably promoted. That is good so far as it goes, but Joe Doakes, in a unit that happened not to be on the list, receives no consideration for promotion.

For example, say the 555th Division has fifty men eligible for promotion and the 444th Independent Battalion has ten. Doakes is the only man eligible in the 333d Repair Company. Now if five promotion allocations must be

spread out among these three units, the 555th will most likely get four, the 444th one. And Doakes? He sighs and waits for next month, which never seems to come. It doesn't matter how well qualified he may be; he was never in the running.

A substitute program has been kicking around for some years that combines the pre-Korea system with a 1956 model. I imagine the argument—it has some merit—against it is the complexity of such a step, and its probably unjustifiable cost. But we live in an age of pushbutton driving and IBM machines, so perhaps a workable solution is not too complicated or costly.

Immediate commanders could rate each of their noncoms or specialists by a numerical scale ranging, say, from 1

to 7, each figure corresponding to an appropriate remark. Remarks might range from (1) "Would not be recommended for promotion in this unit in the foreseeable future" to (7) "Unqualifiedly recommended for the next higher grade." Numerical rating could be given for subjects like military bearing, proficiency (based upon results of an examination), capability as an instructor, adaptability for specialized duty, along with the old standbys of conduct and efficiency. Extended remarks like those on the 67-3 or 1301 would pointedly be omitted, unless necessary to explain unusually low or high ratings.

Numerical ratings could then be easily transferred onto a punched card, along with date of current rank, number of months in present MOS, number of months in a higher-grade position, and such other data as might be needed. Reports might be rendered annually or semiannually, on change of station or assignment, or upon reduction in grade.

DA could then allot its monthly promotion quota from the data on these cards, announce a cutoff score, and work on those eligible. Promotion could be made effective sixty or ninety days from date of announcement, thus allowing a unit to find a slot for its soon-

This department is designed to accommodate the short, pithy and good humored expression of ideas—radical and reactionary, new and old. We pay for all contributions published but you deserve to be put on notice that the rate of payment depends upon the originality of the subject and the quality of writing rather than length. This department is hungry for contributions, so shoot that good idea in . . . today.

## PROPERTY IS A FIELD-GRADE PROBLEM

LT. COL. J. I. GURFEIN

THE state of Army property books is deplorable. Supply personnel are, in general, not qualified for their jobs because of lack of training and constant turnover. They are overworked, with each man trying to do the jobs of two or more. Furthermore they are not properly supervised because company commanders aren't trained in keeping property records.

Personnel records are normally kept in battalion or regimental headquarters because of continuous and rapid changes, the number of regulations to

be consulted, and the great amount of specialized knowledge required to prepare them. Similarly, centralization of vehicle maintenance records at battalion is quite common. Under expert supervision, this centralization of records and related correspondence does not eliminate the need for company clerks to handle other correspondence, morning reports, and miscellaneous typing.

Under our current system two functions are required of company supply personnel: the maintenance of records, including property books, vouchers, re-

ports of survey and statements of charges; and the daily supply function where sheets or rifles or gas masks are issued. These two functions—keeping records of wholesale dealings with higher headquarters, and the satisfying of retail demands—are independent and should be separated.

I suggest that property records be centralized under a skilled warrant officer at battalion level. He must be a man who has a detailed knowledge of procedures and regulations. He should be given immediate control of the supply clerks working there. This may also eliminate the duplication of records now kept at battalion level. Mean-

to-be-promoted man, or to stop his promotion if conditions arose between the last efficiency report and date of announcement to warrant that action.

The first of many advantages is that selection of enlisted men for promotion is automatic, regardless of local conditions that effectively bar many good men each month. Another is the opportunity for commanders to express effectively and continuously their opinion of the enlisted men they command. It places at DA's fingertips a list of its best—and worst—career enlisted people. Many good jobs, such as duty with civilian components, missions and attachments go begging because DA can't find the right men, and the right men can't seem to find DA. Finally, it gives the career NCO or specialist a real sense

of belonging; it lets him know that decisions affecting his career and his chances for advancement are not being made haphazardly, as he has unfortunately been led to believe.

The system could be kept economical by omitting reports on men intending to get out, and by reporting on master sergeants only annually or biannually, to allow DA to keep in touch with men in the field.

Until such a system is adopted, or at least another better than the current one, many of us will continue to join Doakes in his monthly sigh.

**Sgt. Ben. Moskowitz** wrote "Let's Have More Competition" in the October issue of ARMY. He is on duty with the USAR Training Center in Norfolk, Va.

## BRING THE M1 UP TO DATE

JOHN L. HOFUES

**L**ET'S face it: The M1 is good but not good enough for tomorrow's war. Its 9.5 pounds are too much; its two-step firing is dangerously slow; its block-clip loading is inadequate.

The current trend is toward crew-served weapons capable of tremendous destruction. But what of the infantryman, who must attack, defend, and occupy on the ground? The Communists are prepared to commit an overwhelming number of ground troops, armed

with a new rifle, lighter and shorter than their World War II piece, with deliberately reduced effective range and greater fire power. It is easier to carry and handle, and more suited to combat conditions and the shooting skill of their average soldier. Even the cartridge is shorter than the NATO model.

In close combat the first shot at the enemy firing on you is the important one. The soldier who knows he can make that first shot count in a man-to-

man encounter has a tremendous morale advantage. To get in that first hit he needs a fast-handling rifle that is always fully loaded and ready to shoot and easy to fire from a magazine that allows easy insertion of extra cartridges. With such a weapon reaction time is shortened, confidence and aggressiveness built up, and deadliness increased. The payoff will be in fewer American casualties, fewer captured, and more men in shape to fight.

Heretofore, our efforts at improvements in or original designs of the infantry's basic weapon have been directed mainly toward reducing cartridge bulk or increasing rate of fire. We have the new, shorter 7.62 NATO cartridge, and designs for rifles capable of full-automatic fire are being studied. But it seems we have not seriously considered the three essentials of the modern combat rifle: lightness and shortness; double-action mechanisms; and a self-contained, nondetachable magazine that can be reloaded without emptying the chamber.

Almost all gunwise peace officers, and our CIC agents, use double-action revolvers, for only one reason: they know that to stay alive they must get

**John L. Hofues** has been a firearms student, shooter and experimenter for sixteen years. He was commissioned in the Infantry from ROTC in 1949 and was a platoon leader in Korea. He is now a civilian Educational-Specialist Writer for the Department of Non-Resident Instruction at TIS.

while, in the company the supply sergeant can issue items to men on their Forms 10-102. Company commanders can sign for and be responsible for the use and care of the property, but not for keeping of books, just as they are responsible for their men's personnel problems but not their records.

The saving should be considerable. Proper and complete records will eliminate the need for board actions and follow-up inspections. Duplication, and the poorly prepared and excessive paperwork that now oscillates between headquarters, will be eliminated. One or two additional men will be required in the battalion supply room, but since

the job is not being done properly now, and because of the increased efficiency and saving, this augmentation is well worth while. These men will handle only the property books. With no additional duties, they can do an efficient job.

This centralized supply system has been tried in various ways in the past, most recently during Sage Brush under the AFRA tables of organization and equipment. However, there the pendulum swung too far, and company commanders were completely eliminated from the property supply problems except for responsibility. More recently, a proposed change to SR 735-30-1 has

been circulated for comment.

The company commander has the toughest job in the Army. He bears all the responsibility and all the pecuniary liability for the property charged to him, yet he doesn't have a trained staff. I believe it's time a field-grade officer was made responsible for property records so that the company commander has more time to train his men. Keeping property records is a big job, and should be done at battalion level.

**Lt. Col. Joseph I. Gurfein**, Corps of Engineers, is a 1941 graduate of West Point. He earned an M.Sc. from Harvard. He is now Executive Officer, 116th Engineer Group (C), at Fort Lewis, Wash.



in the first hit. To fire the double-action revolver you just squeeze the trigger—no hammer cocking, no safety releasing. Why can't such a mechanism be adapted to the infantryman's rifle, and the weapon made light and short?

The Winchester loading system, which has come down to us almost unchanged since the days of the Old West, is popular because its magazine can be kept fully loaded by inserting a single cartridge without unloading the live round from the chamber. Your piece is ready to fire even while you are loading. The infantryman's rifle should embody a self-contained, constantly loaded magazine.

One reason our M1 does not meet the demands of modern combat is that its accuracy (with regular issue ammunition) is only commonplace. The power of the cartridge and the weight of the rifle are appropriate for a 1,000-yard target piece, but any experienced training officer will agree that getting most soldiers to shoot accurately at ranges greater than 300 yards is just a fond hope.

To fire his M1 the soldier performs two motions: (1) unlock, (2) squeeze the trigger. Of course, he could carry his rifle loaded and cocked, with the safety unlocked—a sure way to end his personal buddy system.

When bullets are cracking, it is difficult, if not dangerous, to unload the chamber of the M1 to insert a fresh, full clip. When the M1's bolt is pulled to the rear (it must be to eject a partially empty clip and reload with a full one) the extractor on the bolt pulls the live cartridge from the chamber. Consequently, the rifle is not ready to fire until the new clip is seated and the bolt is fully forward and chambering a new round. Being caught with an empty rifle, or even a partially loaded one, may result in death or capture. Few soldiers can tell how many rounds remain in the clip, once they have begun firing.

Our soldiers now carry excess weight, bulk and length, the compensation for which in terms of increased effectiveness is only imaginary. The constantly ready, quick-shot, light rifle is a must. Only two weapons designed for military use approach the three essentials I have mentioned: the present caliber .30 carbine and the Johnson rifle, M-1941.

Our carbine is short, light, and has a high cyclic rate. Because its magazine is inserted from beneath, unlike the

M1's top-loading clip, a live cartridge can be left in the chamber. But even this value is lost, because the cartridge is too low-powered for military use—so low-powered that several states have banned it for use against deer.

Detachable magazines and clips become easily dented, sprung, rusty and dirty. Frequently they have projections that catch on clothing and brush, and there is the ever-present problem of the magazine falling out because of a faulty latch. Sand and dirt impair magazine functioning. Often a soldier finds he has only one good magazine left. Anyone who has held the carbine in one hand, ready to fire, can tell you how close to impossible it is to insert fresh rounds into a carbine magazine with the free hand. Even if you have a supply of clean, functioning magazines, loaded and ready to insert, the carbine has no double-action mechanism. About the only merits the carbine has are that it is short, handy and light.

People who have used the Johnson claim it is superior to the M1. It can be kept fully loaded without emptying the chamber by inserting additional rounds through a side door (loading gate) in the receiver while the rifle is cocked. Most men like this feature. However, it is not light, and it has no double-action mechanism.

The T-44 and T-48 rifles merit no

high rating. They are not much lighter than the M1, they depend on detachable magazines like the carbine, and neither has double-action mechanism.

The new AR-10 offered by Armalite Company of California represents a more realistic approach to the weight and length problem, but repeats the faults of mechanical design found in the other arms I have mentioned.

As a starter, simply drawing from mechanisms available commercially, here's a possible solution:

Give the infantryman a rifle that embodies the light 20-inch barrel of the Winchester Model 94 or the Marlin Model 336 carbine; the double-action mechanism of the Smith & Wesson K-38 or Colt's .357 revolver; the loading gate from the Johnson M1941 rifle. The magazine should be of the Johnson rifle type or the Savage Model 99, and should accommodate a good semi-automatic action. Retain the peep and front sights. From such basic design features we should come up with a rifle that can meet the test of modern combat.

No matter how many guided missiles are fired during the next war, or how many atomic bombs are dropped, the rifle, the basic weapon of ground forces, must be carried and used by the men who must fight that war on the ground. They deserve the most effective weapon we can give them.

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## GUNNERY IN SMALL COMBAT UNITS

COLONEL JOHN D. BYRNE

**A** BROADER knowledge of gunnery is necessary as new weapons, like the guided missiles, become integrated into our fire plans.

A better understanding of gunnery by each combat battalion staff in a task force should speed the details of fire coordination and thus reduce the total staff and communications load during operations. The question for officers to ask themselves is: Are we relying too much on experts for advice in the basics of our profession, things that each of us should know about weapons?

A Navy friend is enthusiastic about a three-month gunnery course which treats gunnery as a general subject like navigation or communications. This course includes characteristics and logistics of weapons, methods of fire control, and detailed duties of personnel.

This sort of instruction might be

useful to the Army, for all modern combat units have weapons that would have been called cannon a few years ago. (To keep it simple, let's stay with cannon.) Moreover, communications allow one combat arm to influence the use of the weapons of another in battle, in a matter of seconds. Gunnery, therefore, is a general subject for the Army as well as the Navy.

Each combat battalion could well use a gunnery section in its staff, headed by a specially trained gunnery officer. This would involve no organizational change for the artillery battalion, where S3 is a gunnery and an operations section. But in the infantry or armored battalion, where operations dominate, S3 could well include a gunnery section to handle the necessary close coordination of heavy fire power. In the artillery, S3 himself is the gunnery of-



ficer; in other arms, the S3 would obtain a gunnery officer as an assistant.

But even the artillery would find a need for additional, trained officers and men in gunnery sections. Fort Sill's basic fire-direction courses could provide the groundwork for additional courses in coordination of fires, and in characteristics and logistics of weapons.

Our problem is as complex as the Navy's. Unlike the sea, the land's surface has projections and depressions, ammunition does not automatically flow from magazine into gun, and most Army weapons cannot be used against both aerial and surface targets. For example, Army officers must know more about trajectories. Land trajectories must avoid terrain obstacles and approach a target in a sensitive aspect.

Further, the relative logistic cost of various types of ammunition must be weighed in terms of transportation and storage and of the efficiency of the weapon—that is, the ratio of projectile weight to total weight of round. The future will also demand a more widespread knowledge of antiaircraft gunnery.

Our school system should train these gunnery officers and specialists. Once they join a battalion, more comprehensive training can be done within the unit.

**Col. John D. Byrne**, Artillery, a frequent contributor to ARMY, was last heard from in "Bringing Up the Staffs" in the November issue. He is on duty in the Pentagon.

## PHYSICAL FITNESS IS A MUST

LT. ROBERT R. RAFFERTY

**W**E TEACH "Follow Me," but how many of us could lead an assault up Old Baldy today—even a training exercise with no one shooting back? Could you lead a three-day patrol far behind enemy lines? Or make the first week of jump school again? How many wearing the proud Ranger patch could survive the first week of the PT program again?

Those inches some of us have added to our waists since we were newly minted second johns may have cut our chances of surviving down to odds that no gambler would consider. Each excess inch on the waistline, each pound of muscle deteriorated into fat, each sinew softened by riding a desk slashes into our combat lifetime. We must be in physical condition to do the world's most difficult job—that of the combat leader, which requires a man who can do as well as direct.

We can keep ourselves in shape no matter what our job, not through the routine daily-dozen and such alone but during everyday activities. We can walk that mile to headquarters instead of riding. If you're lucky enough to be

with troops, take advantage of it and get out on PT with them. If they march with full-field pack, yours shouldn't be in your jeep. If they walk, you walk too. We can go in for stamina-demanding sports like handball, football or basketball, lift a few weights for several minutes each day, or do pushups before a shower.

There are also excellent opportunities in promoting and participating in mass athletics. You can push them in opposition to spectator sports. Grandstand calisthenics never kept anyone in condition.

The world may have already forgotten many of the lessons of the Korea fighting, but we professionals cannot afford to forget that some officers and men died there because they expended all their physical efforts climbing a hill when they could have been fighting their way up.

**Lt. Robert L. Rafferty** was commissioned in the Infantry from Niagara University in 1952. After three years in Japan he is now assistant PMST at St. Mary's University in San Antonio, Texas.

## MISSION-TYPE ORDERS

MAJOR W. W. STAFF

**S**INCE World War II many soldiers have fallen into the bad habit of using detailed "orders for the record,"

instead of "mission-type" orders. This reveals a lack of the moral courage of allowing for honest mistakes by sub-

ordinates and letting them learn from mistakes. This lowers morale and retards development of leaders.

I think the reason for this is that we are operating more and more, at the lower levels, with men of limited experience, and with a large turnover. Yet our missions have not decreased in proportion to the experience and caliber of the men who must carry out the missions. Some place part of the blame on the Command Management System, airily rationalizing that higher commanders cannot easily delegate responsibility to subordinates.

During the war it was customary (and expedient) to order, "Lieutenant, your platoon will capture that hill." Today we tell the lieutenant what formation he will use, the distance between men, how to employ his weapons squad, the action he will take when his platoon comes under fire, and where he will station himself during the action. We might even add, "Good luck, Lieutenant; I have full confidence in you."

Such orders ignore the possibility that the platoon leader might show some initiative, and there are people who deny subordinates even the right of self-expression. During an ROTC summer camp last year, mature officers of considerable combat experience prepared lesson plans for the cadets. Time after time the officer who reviewed the plans approved them, but insisted upon changing a word here and a sentence there, so that the wording would better conform to what he would use if he conducted the class. No reasonable man would assume such a privilege by virtue of his position, for it is detrimental to initiative, self-confidence, and the right of self-expression.

Our peacetime mission always has been to prepare for war. Preparing subordinates for higher responsibilities is a most vital part of that mission. It demands from each of us in a supervisory role a better knowledge of the psychology of the American soldier, an awareness that men properly led will do their duty and will not shirk responsibility. We must understand that responsible people must be given opportunities to develop their self-confidence and leadership potential. We must also realize that honest mistakes will be made, and we must have the courage to expect them to be made.

**Major W. W. Staff** is the pseudonym of an Infantryman who was commissioned from the ranks in 1942.

## THE MONTH'S BOOKS

### "... A Brave Picture"

#### A COMPACT HISTORY OF THE UNITED STATES ARMY

By Col. R. Ernest Dupuy  
Hawthorn Books, 1956

318 Pages; Illustrated; Index; \$4.95

Reviewed by

FORREST C. POGUE

Those who loved the Old Army, who moved from post to post in the United States or to garrisons overseas, who waited through the years for promotion or a meager raise in pay, will find nostalgic memories in this book. The recruit or the civilian who has never seen a parade ground will gain knowledge and, I think, increased respect for the Army from this history. Those of you who recall the 50th Anniversary issue of this magazine (October 1954) will be delighted to know that this book is an expansion of the 50-year survey Colonel Dupuy wrote for that issue.

There are academic historians who will wish for more careful documentation of some of the accounts and who will list points on which recent monographic accounts might raise some doubts. There are others who may feel at times that the author substitutes a polemical for a historical approach. But they cannot deny that the book accomplishes the purpose of the author and publisher: to make the reader aware of the importance of the Army in the history of the United States and to acquaint him with some of the traditions and leaders which made the Army great.

It is possible that the book will appeal more strongly to the old professional soldier than the new draftee. Limitations of space often make it necessary for the author merely to identify some of the lesser known characters and events. While this is enough to bring back recollections to the old-timers, it may mean little to the uninitiated. But for even the newest recruit there is a fascinating account of the fighting force which helped to form the nation.

The author, who has written of West Point, of SHAEF, of great battles of World War II, and who has collaborated with his son in writing an impressive volume of the military heritage of the United States, draws upon his knowledge of the American army and his own experience as an officer to hammer home

the thesis that the Army, despite often shabby treatment by an unappreciative public, played a tremendous role in making this country great. He does not let the fighting role of the Army overshadow its contributions in times of peace. Colonel Dupuy's fighting heroes like Winfield Scott, George Crook, and George Patton have to share the limelight with Sylvanus Thayer, Dennis Mahan, Emory Upton, and the doctors and men who died in the battle against yellow fever.

Colonel Dupuy never forgets that it is the Army and not our battles he is describing; the great battles of our history are briefly mentioned save where a disaster or brilliant victory points up defects or virtues in doctrine. Thus the weakness and ineptness which led to the capture and burning of Washington are given as much space as the victory of Jackson at New Orleans. The Indian wars are discussed mainly for their tactics and weapons, and Custer's massacre is kept in proper perspective. In the Civil War

less space is given to Mr. Lincoln's efforts to find a general than to the Spencer rifle, the work of bridge builders, the problem of supply, and the efforts of Clara Barton and Dorothea Dix. World Wars I and II are not allowed to overshadow the earlier phases of the Army's history.

The human element is given full play. Time-honored stories of eccentric colonels and irascible generals share their place with even better-known accounts of the Army's heroes. The gallant efforts of the Army wives to provide a home in the Western desert or in tropical outposts overseas are given proper space. Difficulties of life on Army pay are made graphic by a recital of pay scales at various periods of the Army's history. (I feel that the second lieutenant of 1834 probably did better on \$63.91 a month than did his counterpart at approximately twice that pay on the eve of World War II.) The diet of the soldier is noted, along with age-old gripes which the Roman legionnaires probably shared. A whiskey ration, we find, was a regular feature of the soldier's life until 1832, when Winfield Scott substituted coffee and sugar instead.

Strikingly illustrated by Gil Walker, whose pen-and-ink sketches have delighted the readers of *ARMY*, highly readable, filled with many chuckles and some strong back-of-me-hand slaps at those who have opposed or obstructed the Army in its mission, the book provides a grand parade of Army heroes—fighters, wives, doctors, engineers, nurses, and even *Stars and Stripes* reporters—from the days of the Colonial militia to the fighters of the jet age. The book refurbishes some old legends and adds some new ones. It makes a brave picture and a stirring story.

### Beyond Upton

#### ARMS AND MEN: A Study of American Military History

By Walter Millis  
G. P. Putnam's Sons, 1956  
382 Pages; Index; \$5.75

Reviewed by

COL. CHARLES W. MCCARTHY

This work has been referred to as a history of American military policy. It is far more than that. It is a history of our military actions, their development, and the reasons or attitudes, political or physi-

#### THE MONTH'S REVIEWERS

Dr. Forrest C. Pogue is Director of the George Catlett Marshall Research Center at VMI. He wrote *The Supreme Command*, a volume in the Army's official history of WWII.

Col. Charles W. McCarthy, Retired, a former member of AUSA's Executive Council, has contributed many reviews to *ARMY*.

Mark S. Watson, military correspondent for the *Baltimore Sun*, is dean of the Pentagon press corps. He was on the staff of WWI *Stars and Stripes*, and wrote *The Chief of Staff* in the official WWII history.

Col. Willard Webb, *Armor*, USAR, is Chief of the Stack and Reader Division of the Library of Congress.

Col. Frederick Bernays Wiener, *JAGC*, USAR, an attorney practicing in Washington, D. C., has contributed many articles and reviews to *ARMY* and its predecessors.

N. J. Anthony is on the staff of *ARMY*. He is at work on a volume dealing with the Civil War.

Col. William Cooper Foote, Retired, a former Artilleryman, is Secretary of the American Military Institute, with which is incorporated The Order of Indian Wars of the United States.

cal, which fostered such development. Of course, the policy is covered in detail, in some cases setting the pattern for the action, in others stirring with mad haste to catch up with it.

Mr. Millis points out in his "Notes on Sources" that a timely effort to cover the evolution of our military policy—land, sea and air—is noticeable by its absence. He does not claim to have included in this volume a complete review of the policy as well as the history of our military effort, but he comes very close to it.

For those who have longed for someone to take up where Upton left off with recognition of the part our Navy played when it is applicable, this is the answer. Not only that, but that third-dimension force—air—has been included and the development of that service is thoroughly covered.

This book is by no means all "sweetness and light." Mr. Millis has expressed some hard truths, and having digested the many works of history produced or monitored by the three armed services following World War II, he is in an excellent position to back up his statements with complete references.

Each service will, at first glance, find portions that it may object to. That is, the hotheads, young or old, who have a superficial knowledge and a misguided sense of loyalty. But the author has made the past errors and shortsightedness of the military so obvious that in retrospect admission of these mistakes can be a graceful act.

This is not intended to convey the thought that this reviewer is of the opinion that Mr. Millis is always right. We must question the author when he wonders if having a General Staff was one of the principal motives behind our entrance onto the world stage in World War I. We just had to try it out.

Nor is he quite fair in his conclusions regarding "Teddy" Roosevelt's efforts in behalf of the Navy. True, we may not have kept up in the building race with the other great powers, but certainly Mr. Roosevelt tried. It was not new to have ambitious Presidential plans thwarted by Congress, and maybe if the Navy had really known what it wanted Mr. Roosevelt might have succeeded.

But these are minor points. Of great value to the student of military history is the account of the development of air power within the Army and the Navy and the fair appraisal of the efforts to push such development on the part of the generals and the admirals. This thought is contrary to what contemporary Air Force historians would have us believe, and yet we have fully exposed the account of the Drum Board and the far-sighted report which it submitted urging greater autonomy for Army Air as well as a recitation of other efforts.

No review of this book would be com-

plete without praise for Mr. Millis's easy, fluent and at times humorous style. In this age when it is difficult to develop an enthusiasm for history in our young people, style in writing means much. Mr. Millis has done again what he did in *The Martial Spirit*, but with greater ease and a far more engaging subject.

### "One More Local Action"

**PORK CHOP HILL: The American Fighting Man in Action; Korea, Spring, 1953**  
By S. L. A. Marshall  
William Morrow & Company  
315 Pages; Maps; Index; \$5.00

Reviewed by

MARK S. WATSON

To the ever-mounting accounts of wars and battles, viewed in the large, S. L. A. Marshall adds another of his absorbing (and technically instructive) accounts of the fighting in detail. His newest book deals solely with what happened on and around Pork Chop Hill in the spring of 1953, when the Red Chinese made a determined drive against the American outposts in Korea.

Without this account, Pork Chop Hill would have remained unknown to contemporary readers, despite its entrancing name. For the action took place when the excitement of Operation Little Switch was on, some miles away, and the newspaper correspondents who normally might have been at Pork Chop had rushed off, inevitably and properly enough, to report the Reds' return of UN prisoners. Thereby they found a great deal of news well worth their attention, but they totally missed Pork Chop. True enough, it was just one more local action. Yet it had severe casualties (200-man companies dropping to 50, and platoons to five men), and along with the fire of the riflemen and grenadiers, there came from our supporting artillery a rain of 40,000 shells in twenty-four hours, which any field ordnance officer will tell you is quite a shower, involving a massive job of resupply.

General Marshall, at various times in the past forty years combat officer, staff adviser, military correspondent, historian and infantry operations analyst for Eighth Army and for Operations Research Office, employs in his recording a technique as productive as it is painstaking. It involves an interrogation of officers and men during and immediately after a fight, individually and in groups, so that each soldier, while his memory of recent events is good, can supplement and correct his comrades' accounts, his superiors' included. The author's subsequent reduction of a mountain of notes to narrative form therefore is rich in detail which the broader narratives cannot employ. The main aim is to detect and mark out the good and bad points of our own Army's training, equipment, organization and

field operations, and of this the Army has repeatedly made good use. The accompanying result, of more interest to the general reader, is an extraordinary portrayal of what the fighting man, of all categories, does in battle, good or bad, important or trivial, reasoned or impulsive, wrapped up in an intensely interesting narration that is often surprising.

Thus, one encounters a lively account of the Ethiopian unit, which fought alongside our own, and which produced a patrol action that is recorded in detail; everything was done exactly right, because it was well planned, methodically executed, and marked by a flawless relationship of officer and men in an advanced state of discipline and training. The reader encounters in the next chapter the record of an American patrol entrusted with much the same sort of mission, but starting with poor training and an incomplete plan, operating with techniques far from perfect, and groping to its own ruin.

That our Eighth Army never was large enough to let it exploit properly its admirable mechanisms of mobility is too well known, but it is disturbing to encounter here the harsh evidence that even after two years the American fortified line was deplorably bad, whereas the Chinese line, patiently and skillfully constructed by sweating men, was a 14-mile network of underground communications all but invulnerable to our weapons. It is General Marshall's judgment that the Chinese Reds employed this Korean training ground to evolve armies "as skilled as any in the world in the techniques of hitting, evading, and surviving."

It was Major General Arthur G. Trudeau's 7th Infantry Division which caught most of the heavy fighting at this period and acquitted itself well, all considered. Presumably its personnel was fairly typical. Certainly it was varied, and the methodical technique of the author discloses all varieties of soldier, each man exposed to the cruel test of an emergency action which that man knows, if he stops to think, may well be his last. How does he respond? In a great many ways, inevitably. Sometimes with superb courage, sometimes with panic, sometimes with a sort of numb apathy.

There was a private who, already weakened by earlier fighting, charged into the enemy's concertina wire, which thwarted his attempts either to extricate himself or to work down to the relative safety of the ground. He was totally exhausted—until a Chinese grenade rolled down under his feet and scared him so that he pushed out of the wire just in time. "I got strong quick," he explained.

And there was Corporal George Mata, similarly caught in the wire, but so angry about it, plus the enemy's tossing grenades from a nearby trench, that he tore himself free. Unable to extricate his com-



## Selected Check List of the Month's Books

*This run-down of some of the books received for review during the month preceding our deadline is to give our readers who like to follow current literature a monthly check list of the most important, useful and potentially popular books. Full reviews of some of these books will appear in this or subsequent issues. Any of these titles may be purchased through the Combat Forces Book Service. See page 80 for order coupon and a complete listing of Selected Books for Military Readers.*

**THE AMERICAN STORY.** Edited by Earl Schenck Miers. Channel Press, 1956. 352 Pages; Illustrated; Index; \$5.00. A one-volume anthology of Americana from sixty leading American historians, educators, authors and editors.

**THE COMBINED FOOD BOARD: A Study in Wartime International Planning.** By Eric Roll. The Food Research Institute, Stanford University Press, 1956. 385 Pages; Index; \$7.50. Emphasizing the international aspect of one facet of logistic planning. To be dusted off quickly for future crises.

**THE DECISIVE BATTLE OF NASHVILLE.** By Stanley F. Horn. Louisiana State University Press, 1956. 181 Pages; Illustrated; \$5.00. A study of the two-day battle, developing the author's thesis that this was the decisive battle of the Civil War. Good history, hardly stirring; more scholarship than color.

**A DIFFERENT VALOR: The Story of General Joseph E. Johnston, CSA.** By Gilbert E. Govan and James W. Livingood. The Bobbs-Merrill Company, 1956. 470 Pages; Illustrated; Index; \$6.00. Basically an account of the bad feeling between General Johnston and Jefferson Davis and his staff as the villains. If anything, too much about the feud and too little about Johnston as a military figure.

**GRAN'PAPPY'S PISTOL, Or, To Hell with Gun Collecting.** By Duncan McConnell. Coward-McCann, Inc., 1956. 152 Pages; Illustrated; \$3.50. Wry humor that would be wasted on any but gun collectors.

**A HISTORY OF FIREARMS: From Earliest Times to 1914.** By W. Y. Carman. St. Martin's Press, 1956. 207 Pages; Illustrated; Index; \$3.00. A short, nontechnical work on ancient ordnance. Readable and useful as a reference, the short bibliography is especially helpful. Some of our younger readers may be astonished at the antiquity of the use of rockets in war.

**HOW TO WIN AT GOLF.** By Fred C. Canausa. Vantage Press, 1956. 92 Pages;

Illustrated; \$2.95. The famous West Point golf instructor tries his hand at putting it on paper. More useful for the golfer past the beginner stage but not quite to the experienced phase than for the beginner or the more advanced. The meat is in the illustrations.

**KOREA, 1951-53.** By John Miller, Jr., Major Owen J. Carroll and Margaret E. Tackley. Office of Chief of Military History, 1956. 328 Pages; Illustrated; Maps; \$2.50. The long-awaited companion volume to *Korea 1950*. Many photographs; a worthy successor to the first volume of the series of two. More brightly readable than the formal World War II series.

**LEADERSHIP AND ROLE EXPECTATIONS.** By Ralph M. Stogdill, Ellis L. Scott and William E. Jaynes. Bureau of Business Research, The Ohio State University, 1956. 168 Pages; Tables; \$2.00. A highly technical study of the relationship between expectation and performance in the leadership role, based on a study of a Naval Air Research organization.

**LINCOLN AS THEY SAW HIM.** Edited and Narrated by Herbert Mitgang. Rinehart & Company, 1956. 519 Pages; Illustrated; Index; \$6.00. As the editor and narrator says, "Lincoln is where you find him; and everywhere." Mr. Mitgang found Lincoln in many contemporary sources, mainly the public prints. The result is a mosaic, partly unclear to those without a good grounding in the subject, but illuminating to Lincoln students.

**REBEL BRASS: The Confederate Command System.** By Frank Vandiver. Louisiana State University Press, 1956. 143 Pages; Illustrated; Index; \$3.00. A very short, but important text for the lessons it offers. States' rights and Confederate needs never did become resolved to the point where the Southern command system could operate with any real efficiency.

**RECRUITING VOLUNTEER ENLISTED MEN.** By Col. Clark L. Hosmer, USAF. Commandant, Industrial College of the Armed Forces. 81 Pages; Charts; Gratis upon application. A study, basic-

ly statistical, emphasizing the concept of status as a factor in enlisted recruitment. Of value primarily to high-level personnel planners.

**A RIDE TO PANMUNJOM.** By Duane Thorin. Henry Regnery Company, 1956. 303 Pages; \$4.00. A grim novel by a Navy CPO, POW in Korea, on the theme of why some Americans were able to resist brainwashing and others broke much too soon. Contains many of the homely truths—and they must be part of the answer.

**SMALL ARMS AND AMMUNITION IN THE UNITED STATES SERVICE.** By Berkeley R. Lewis. Smithsonian Institution, 1956. 338 Pages; Illustrated; Index; \$8.00. Although not indicated in the title or foreword, the information brings us up only slightly past the Civil War. A gold mine for antiquarians, with tables and illustrations to delight any true gun bug.

**THE WAR POTENTIAL OF NATIONS.** By Klaus Knorr. Princeton University Press, 1956. 310 Pages; Index; \$5.00. An excellent study of the constituent elements of war potential which, combined and directed on the home front, can be mobilized to form and support the armed forces.

**WILD TRAIN: The Story of the Andrews Raiders.** By Charles O'Neill. Random House, 1956. 482 Pages; Illustrated; \$6.00. Another of the many books about the capture of *The General* by Union troops during the Civil War, and its recapture. This one differs from the others by being largely in the words of the participants. Not as exciting as the fictionalized accounts, but more accurate.

**WINSTON IN WONDERLAND.** By Winston M. Estes. Eagle Books, 1956. 167 Pages; \$3.50. Probably too broadly humorous, and Air Force oriented, but amusing to those who have served in the Pentagon. It might frighten those who have yet to do their penance in what one of our editors calls "The Maginot Line," but not very much.

rades, he took from them their unused grenades and an automatic rifle, and rushed at the trench. He tossed the grenades into the bunker entrance as rapidly as he could arm them, then "dusted" the trench to right and left until every foe was eliminated, and then resumed his regular job.

There was the company clerk whose normal occupation made him deferential to the lieutenant who was sprawled out beside him behind a shallow barrier. Said the clerk: "Sir, there's a Chinaman. May I have the lieutenant's permission to shoot him?" Said the officer just as methodical-

ly: "Permission granted." Five times this ritual was repeated. He was a good clerk and, fortunately, a good rifleman too. Not all his comrades were his equal in either respect.

As one looks back over the narration of Pork Chop, plus the separate chapters on selected patrol actions, the shining example still seems to be that of "The Incredible Patrol," as the Ethiopian group is termed. This applies not only to the interest of the narration, but to the lessons which a training system can draw from it. General Marshall's comment is:

"Of all troops which fought in Korea

the Ethiopians stood highest in the quality of their officer-man relationships, the evenness of their performance under fire, and the mastery of techniques by which they achieved near-perfect unity of action in adapting themselves to new weapons during training, and in using them to kill efficiently in battle.

"They couldn't read maps but they never missed a trail.

"Out of dark Africa came these men, thin, keen-eyed, agile of mind and 95 per cent illiterate. They could take over U. S. Signal Corps equipment and in combat make it work twice as well as the best



trained American troops. . . . The information which they fed back by wire and radio was far greater in volume and much more accurate than anything coming from American actions. . . . Of all national groups fighting in Korea, the Ethiopians alone could boast that they never lost a prisoner or left a dead comrade on the battlefield.

"Their one lack was a good press. . . . They were eager to welcome strangers and tell how they did it. But no one ever asked."

General Marshall did ask, and the result is an engrossing account of a small night patrol (he understandably calls it "matchless") in which fifteen men under their own second lieutenant got the information required, broke up an unexpected Red attack, eliminated one Chinese battalion, searched all bodies for documents and returned unhurt. The author raises a question of how this lesson can be applied, by officers of far greater rank than an Ethiopian lieutenant. The book, in fact, provokes many other questions for our schools, and provides several answers.

### "Fought by Amateurs"

**THIS HALLOWED GROUND: The Story of the Union Side of the Civil War**  
By Bruce Catton  
Doubleday & Company, 1956  
437 Pages; Index; \$5.95

Reviewed by  
COL. WILLARD WEBB

A one-volume history of the Civil War demands great skill in selection of material and presentation. Probably few contemporary historians, if any, are so well qualified as Bruce Catton for the task he has undertaken in *This Hallowed Ground*. His previous books have given him much familiarity with the source materials. His ability to write and to write well is attested not only by a Pulitzer Prize Award, but also by the more demanding jury of the American public which has bought his books in great numbers.

Mr. Catton has a genius and a technique for analyzing great events incisively and comprehensibly and explaining the situation in a delightful vignette in the words of the common soldier. Perhaps no historian of the Civil War has so successfully used the details tucked away in hundreds of unit histories.

Mr. Catton writes thrilling accounts of actual combat; accounts which not only stir the general reader but are nostalgic to the combat veteran. The wild hypnosis of fighting, the bewildering confusion and uncertainty of direction, the appalling indignity of sudden and violent death are all graphically present.

The over-all strategic and political situation is never lost in the detail of combat. The bigger issues are always before

him. Imponderable spiritual forces concern him as much as strength returns. This book discusses the evolution of the concept of the war from the romanticism of McClellan and Frémont to the stark realism of Grant and Sherman as a social change in the American people. The evolution of a real strategic concept of the war is carefully developed. The author takes due cognizance of such phenomena as what is described as the inherent rowdiness of the American character and the acceptance of plundering as a justifiable weapon and not as uncivilized banditry. Perhaps the best piece of logic developed in the book is the explanation given of the gradual acceptance on the part of the Northern soldier of slavery and the Negro as the real purpose of the war.

Fascinating as is Mr. Catton's subject, he makes it more fascinating by vivid writing. He describes McClellan's emotional state while riding the crest of popularity and responsibility, by saying, ". . . he was luxuriating in it as a tired man luxuriates in a warm scented bath." Frémont is described as ". . . a skyrocket; a man who rose fast, seeming to light all the sky, and then went plunging down into darkness." Kentucky's neutrality is described as "gossamer-thin." The description of the strange command experiences of General McClernand uses such phrases as "fast footwork" and "double shuffle." The author is not above describing the comment of a general officer as a "crack." Cynical realism marks the account describing the political and self-centered factors which caused the Army to accept the organization of Negro regiments.

Professional competence, political necessity, strategic wisdom, and social peculiarities, each is well handled in proportion and woven into a most readable and much-needed picture of the Civil War from the Union side.

In presentation the book moves back and forth from the eastern to the western theater, perhaps with more emphasis on the western because here are developed not only the personalities but the concepts which won the war for the North. In a nation whose wars are fought by amateurs this study provides important background for the professionals who must direct and use citizen armies in a democracy where formal discipline is distasteful.

### Canadian Army History

**OFFICIAL HISTORY OF THE CANADIAN ARMY IN THE SECOND WORLD WAR, Volume II: The Canadians in Italy, 1943-1945**  
By Lt. Col. G. W. L. Nicholson  
The Queen's Printer, 1956  
822 Pages; Illustrated; Maps; Index; \$3.50

Reviewed by  
COL. FREDERICK BERNAYS WIENER

This handsome and fully documented volume is the story of the Canadian

Army's contribution to the Italian campaign of World War II. It is a complete account, from policy decisions at the highest levels down to acts of individual gallantry that won decorations for men in the ranks.

The genesis of Canadian participation in the campaign that followed the Axis surrender in Tunisia was the growing demand in Canada that, after more than three years of war, Canadian forces must take part in the fighting. Accordingly, the 1st Canadian Division with an attached armored brigade invaded Sicily and the boot of Italy as a part of British Eighth Army.

Later, Headquarters Canadian I Corps and the 5th Canadian Armoured Division were also sent to Italy, but without the request and with only the grudging consent of AFHQ. After the end of the battle for Rome, the British commanders late in June 1944 proposed that the Canadian Corps be broken up. "In General Crerar's personal opinion [and General Crerar at this time commanded Canadian First Army] the views held by Generals Alexander and Leese regarding the I Canadian Corps were influenced by some degree of national bias as well as by 'the military inconvenience,' if nothing less, of restrictions on the complete interchangeability of formations, units, etc., under a higher command." In a memorandum . . . he observed, "In practice, this means that no Canadian, or American, or other 'national' commander, unless possessing quite phenomenal qualities, is ever rated quite as high as an equivalent Britisher. It also means that, to a British Army Commander, such as Leese, the Canadian cohesiveness created by the existence of a Canadian higher formation, such as a Corps, is a distinctly troublesome factor."

Five months later, after the Canadians had successively slugged their way through the Hitler, Gothic, and Rimini Lines, the corps commander, Lieutenant General E. L. M. Burns—now the UN truce commander in the Middle East—relinquished his command. "Although he was an officer of very distinguished abilities, nevertheless there did not exist between General Burns and the British senior officers that personal relationship of friendly mutual understanding which is so important." Eventually, in February and March 1945, all Canadian units were withdrawn from Italy, in order to join Canadian First Army in Northwest Europe for the final campaigns in Holland and Germany, and to place all Canadian troops under unified Canadian command.

Thus the Canadians were deprived of the privilege of a share in the final triumph in Italy, although they had suffered, along with all other units there, from the frustrations of service in a secondary theater, and although the total Canadian casualties in Italy came to more

than a quarter of those who served in that country—over 26,000 out of some 93,000.

The present volume is a worthy memorial to those brave, capable, and undisciplined soldiers.

### Out of Their Own Mouths

**BATTLES AND LEADERS OF THE CIVIL WAR:**  
Being for the Most Part Contributions by  
Union and Confederate Officers  
Edited by Robert Underwood Johnson and  
Clarence Clough Buel  
Thomas Yoseloff, Inc., 1956  
Four Volumes; Illustrated; Maps; Index;  
Boxed set, \$30.00

Reviewed by  
N. J. ANTHONY

When *The Century Magazine* in the early 1880s published an article on a Civil War campaign by its commander, a rejoinder came forthwith from his opposite number. This gave the editors the idea of covering the entire war by publishing contributions from prominent commanders of and participants in campaigns, battles and actions—military, naval and political—and offered opportunities for rebuttal to their opponents. From this flood of material they assembled four hefty volumes which they published during 1884-88 and called *Battles and Leaders of the Civil War*. B&L had a long life, but finally went out of print during the 1940s.

The edition just published is a direct page-for-page reproduction, but the publisher has reduced the volumes to a size handier for library shelves. Its type page is approximately  $7\frac{1}{2}$  by  $4\frac{3}{4}$  inches as compared to the original 8 x  $5\frac{1}{4}$ , a reduction of some fifteen per cent. The nearly two thousand illustrations are black-and-white pen-and-ink line drawings by prominent artists of the day; there are no halftones because the art of photoengraving had not been introduced when the original edition appeared. Text and notes are easily read, but some of the maps suffer in the reduction.

If you've yearned to own a set of B&L, here is your buy. Considering the terrific costs of labor, paper and other materials, the price for the set is reasonable; the original sold for twenty-five dollars, and you may have to pay more than that for second-hand copies. It's good to see B&L back in circulation, for many battles of Our Own Private War are still being fought.

### Savannah to Raleigh

**SHERMAN'S MARCH THROUGH THE CAROLINAS**  
By John G. Barrett  
University of North Carolina Press, 1956  
325 Pages; Index; \$6.00

Reviewed by  
COL. WILLIAM COOPER FOOTE

To the growing list of excellent books on military history of the Civil War we must add another. John G. Barrett, of the faculty of VMI, has written an inter-

estingly human account of Sherman's march from Savannah through the Carolinas, ending at Goldsboro and Raleigh.

The author's preface states that Sherman always maintained that his Carolina Campaign of 1865 was his greatest military achievement; that the March to the Sea has been amply told but that little has been written of Sherman's operations in the Carolinas. This book was written to correct this omission and to assess the truth of Sherman's personal judgment.

Sherman's objectives: to knock out what sinews of war remained to the Confederacy and to join with Grant before Richmond and Petersburg and be in at the eventual surrender of Lee.

With an army of 60,000 men, 68 guns, 2,500 wagons and 700 ambulances, Sherman cut loose from his base at Savannah early in January, marched through the Carolinas, living off the land and cutting his communications behind him; managing, at each stage, to keep the Confederate forces and the civil population puzzled as to his next march objective. By the time Goldsboro was reached on 23 March, communications and a base established, his troops were generally barefoot and ragged, many being encumbered with pets and others mounted on mules and plug horses "bummed" en route; the whole presenting a comical and most unmilitary sight on their entry into Goldsboro. Though bedraggled in appearance, morale was high, stomachs full and the sick rate extremely low: living more or less off "the fat of the land" provided a more balanced diet than straight commissary rations.

Sherman's orders regulating foraging, the requisition, as well as the destruction of property, complied with the accepted rules of warfare. Unfortunately, there was a wide difference between what was ordered and what was done. The author paints an enlightening picture of the results. Sherman was a believer in total war, and as such was a good generation ahead of his times. The burning of Columbia is quite thoroughly discussed as well as the question of responsibility therefor.

To us, the value of the detailed descriptions of troop movements, the march routes of the corps and divisions and their deployments for battle is definitely dimmed by the absence of any detailed maps. The only map is that found on the inside covers—identical for both front and end—a general map showing the general march routes of the four corps and of the cavalry division, with an inset map of the battle of Bentonville on 19 March 1865, topographical features limited to the rivers and the coast line.

The text is very fair, pointing out that the Union troops cannot be fairly blamed for all the pillaging in the Carolinas; some was the work of Confederate troops.

### Lowdown on Lo

#### THE INDIAN WARS OF MINNESOTA

By Capt. Louis H. Roddis, Medical Corps,  
USN, Ret.  
The Torch Press, 1956  
311 Pages; Illustrated; Index; \$5.50

Reviewed by  
COL. WILLIAM COOPER FOOTE

It is a pleasure to find a good new book on the Indian Wars other than the overdone Custer's Last Stand. This history of Minnesota's Indian wars is well arranged. It includes material collected from many primary and authentic sources, plus a background of collateral information on Indian life and economy. It gives places, names, units, numbers and dates on the various engagements, skirmishes and actions, chiefly those of the great Sioux uprising of 1862-65.

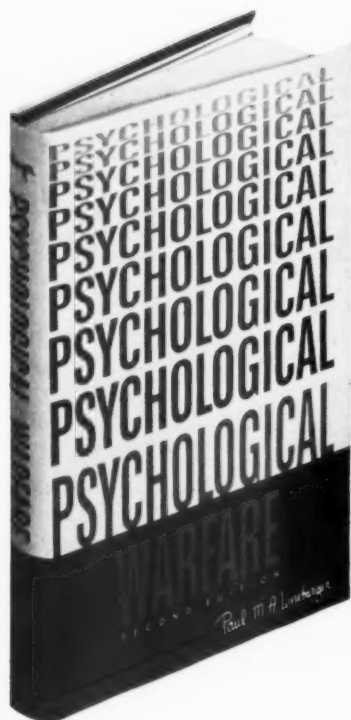
One chapter analyzes the causes of the Sioux outbreak, of which about half fall on the white settlers, some being the inevitable consequences of the "march of empire"; the more immediate being the failure to provide goods and money at the Indian agencies as required by earlier treaties; some are directly attributable to the Indians, including the direct provocation: the murder of five settlers by four Indians in Meeker County on 17 August 1862. The first outbreak described is the Spirit Lake massacre of 28 August 1857 in Dickinson County, Iowa, which the author considers to have been a prelude to the later large uprising of 1862, which latter grew rapidly, spreading into the Dakotas, Iowa and Nebraska. President Lincoln had to divert troops from the Civil War, and Stanton organized the Military Department of the Northwest to fight it.

The last chapter covers the last Indian uprising in the United States, an affray at Leech Lake on 5 October 1898. To fight it two officers and a hundred men of the 3d Infantry (The Old Guard) plus several companies and detachments of Minnesota militia and volunteers were dispatched, despite the fact that these latter had been raised for service in the Spanish-American War. Military casualties: 6 killed, 10 wounded.

The index is poor and there are no maps except the general map of Minnesota inside the cover. In view of the mass of detail given it would seem logical to have included a few detailed maps showing places and terrain features named in the text. Captain Roddis has done an excellent job, though some may say, with justification, that he has included too much detail. The book assembles in one place a mass of information and history previously scattered in many separate narratives, reports and statistics. Despite its limited field, it is far ahead of the many generally undocumented and slanted narratives on the Indian wars of the United States that still encumber library shelves.

# PSYCHOLOGICAL WARFARE

By Lt. Col. Paul M. A. Linebarger, USAR



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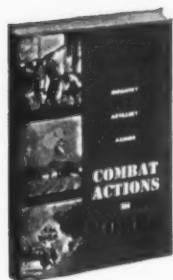
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\$5.00

## COMBAT SUPPORT IN KOREA

By Capt. John G. Westover



Medics, engineers and signalmen; ordnance, quartermaster, chemical and transportation corps troops—all are necessary if the front-line soldier is to accomplish his mission. The Korean war put a severe strain on all combat support units. Installations had to move fast and often; men and machines were taxed to the limit of endurance; it took courage and ingenuity to get supplies through to combat troops.

These post-battle interviews show clearly the hazards combat support units face in modern war—and how ingenious and courageous people went about solving them.

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77



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Address all communications to THE SECRETARY, 1529 Eighteenth Street, Northwest, Washington 6, D. C.





## Report from your AUSA CP

Chapter and ROTC Company organization proceeds. Council of Trustees has approved additional ROTC Companies at Duquesne University, Dickinson College, Loyola College (Baltimore), and West Texas State College. Petition for Columbus-Fort Benning Chapter has been received; will receive Council of Trustees action shortly. Many others, both Chapters and Companies, are in various stages of organization.

Sergeant First Class and Mrs. Floyd Davis, honored guests at Second Annual Meeting where Sgt. Davis spoke on requirements of a missileman, wrote Association as follows: "We should like to take this opportunity to express our gratitude for the kindness and consideration shown us on our recent trip to Washington as guests of the Association of the United States Army. A more thoroughly enjoyable experience cannot be imagined." Attendance at the meeting by these fine people was boost for Army and Association. The new Army requires a new type of noncommissioned officer. Sgt. Davis exemplifies today's (and tomorrow's) backbone of the Army.

Under pressure of processing surge of new memberships, our system for recognizing outstanding membership efforts broke down, but we can make mention of Nebraska Military District, with 100% membership of assigned and attached officers. Nebraska isn't through; will make effort to sign up Reserve and retired personnel. With 113 officers from 168th Infantry Regiment signing up in one mail, Iowa has a good head start. Gen. John C. Hayden's V Corps Artillery reports membership increase of 246 officers, 112 enlisted men, between 1 August and 1 November, with Hq & Hq Battery, V Corps Artillery, 516th and 532d FA Battalions; and 558th GM Battalion reporting 100% officer membership. We're rolling!

Resolution passed at Second Annual Meeting, honoring Hon. Wilber M. Brucker, Secretary of the Army, has been engrossed and framed, presented to Mr. Brucker. Ceremony was held 0900 10 December; Mr. John Slezak, President of Association, made presentation with large representation of high-ranking military and civilians present.

Resolution on Army Memorial, also passed at Second Annual Meeting, will be important matter on agenda for next meeting of Council of Trustees, scheduled tentatively for 28 January. Memorial is long overdue; Council is expected to direct vigorous action. Members with ideas on subject are invited to write to Secretary, who will pass on briefs of communications on this subject to Council.

With Second Annual Meeting barely out of the way, your Association is already planning for Third Annual Meeting. Don't make any other arrangements for 28, 29 and 30 October 1957. The place will be the same, Sheraton Park Hotel, in Washington. We'll be looking for you.

YOUR SECRETARY

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